

EXHIBIT 8

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**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	Avail0109-C1
First Inventor	HAVEMOSE, Allan
Title	SYSTEM AND METHOD FOR APPLICATION
Express Mail Label No.	Filed via EFS

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:**Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450**

1. ☒ **Fee Transmittal Form** (e.g., PTO/SB/17)
2. ☐ **Applicant claims small entity status.**
See 37 CFR 1.27.
3. ☒ **Specification** [Total Pages 25]
Both the claims and abstract must start on a new page
(For information on the preferred arrangement, see MPEP 608.01(a))
4. ☒ **Drawing(s)** (35 U.S.C. 113) [Total Sheets 10]
5. **Oath or Declaration** [Total Sheets _____]
 - a. ☐ Newly executed (original or copy)
 - b. ☐ A copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
 - i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s)
name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☒ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or
Computer Program (Appendix)
☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission**
(if applicable, items a. – c. are required)
 - a. ☐ Computer Readable Form (CRF)
 - b. ☐ Specification Sequence Listing on:
 - i. ☐ CD-ROM or CD-R (2 copies); or
 - ii. ☐ Paper
 - c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
Name of Assignee _____
10. ☒ **37 CFR 3.73(b) Statement** (when there is an assignee) ☒ **Power of Attorney**
11. ☐ **English Translation Document** (if applicable)
12. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☐ **Return Receipt Postcard** (MPEP 503)
(Should be specifically itemized)
15. ☐ **Certified Copy of Priority Document(s)**
(if foreign priority is claimed)
16. ☒ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i).
Applicant must attach form PTO/SB/35 or equivalent.
17. ☐ Other: _____

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 12/421,691

Prior application information:

Examiner WU, Qing YuanArt Unit: 2199**19. CORRESPONDENCE ADDRESS**☒ The address associated with Customer Number: 84646 OR ☐ Correspondence address below

Name

Address

City

State

Zip Code

Country

Telephone

Email

Signature

/Raffi Gostanian/

Date

December 7, 2012

Name

Raffi Gostanian

Registration No.
(Attorney/Agent)

42595

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	Avail0109-C1
		Application Number	
Title of Invention	SYSTEM AND METHOD FOR APPLICATION ISOLATION		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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Applicant Information:

Applicant ¹					Remove		
Applicant Authority		<input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name		Middle Name		Family Name		Suffix
	Allan				Havemose		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service							
City	Arroyo Grande		State/Province	CA	Country of Residence ⁱ	US	
Citizenship under 37 CFR 1.41(b) ⁱ			US				
Mailing Address of Applicant:							
Address 1		2364 Par View Lane					
Address 2							
City	Arroyo Grande			State/Province	CA		
Postal Code	93420			Country ⁱ	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.							
Add							

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
<input type="checkbox"/> An Address is being provided for the correspondence Information of this application.			
Customer Number	84646		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND METHOD FOR APPLICATION ISOLATION		
Attorney Docket Number	Avail0109-C1	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	10	Suggested Figure for Publication (if any)	1

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	Avail0109-C1
		Application Number	
Title of Invention	SYSTEM AND METHOD FOR APPLICATION ISOLATION		

Publication Information:

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input checked="" type="checkbox"/>	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

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Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	84646		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.					
Prior Application Status		Patented	Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	12421691	2009-04-10	8341631	2012-12-25
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.					Add

Foreign Priority Information:

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Remove			
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No
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Assignee ¹	Remove

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	Avail0109-C1
		Application Number	
Title of Invention	SYSTEM AND METHOD FOR APPLICATION ISOLATION		

If the Assignee is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	Open Invention Network LLC		
Mailing Address Information:			
Address 1	Research Triangle Park Center		
Address 2	4819 Emperor Blvd., Suite 400		
City	Durham	State/Province	NC
Country	US	Postal Code	27703
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the Add button. Add			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Raffi Gostanian/			Date (YYYY-MM-DD)	2012-12-07
First Name	Raffi	Last Name	Gostanian	Registration Number	42595

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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DOCKET NO. Avail0109-C1

Via EFS-Web

Date of Deposit: December 7, 2012

System and Method for Application Isolation

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 12/421,691, filed April 10, 2009, titled SYSTEM AND METHOD FOR APPLICATION ISOLATION, now issued patent No. 8,341,631, issued on December 25, 2012. The present application is related to U.S. patent application Ser. No. 12/334,654, filed December 15, 2008, titled METHOD AND SYSTEM FOR PROVIDING STORAGE CHECKPOINTING TO A GROUP OF INDEPENDENT COMPUTER APPLICATIONS, and U.S. patent application Ser. No. 12/334,660, filed December 15, 2008, titled METHOD AND SYSTEM FOR PROVIDING CHECKPOINTING TO WINDOWS APPLICATION GROUPS, the disclosure of each of which is hereby incorporated by reference herein in their entirety.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH
OR DEVELOPMENT

[0002] Not Applicable

INCORPORATION-BY-REFERENCE OF MATERIAL
SUBMITTED ON A COMPACT DISC

[0003] Not Applicable

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BACKGROUND OF THE INVENTION

1. Field of the Invention

[0005] This invention pertains generally to enterprise computer systems, computer networks, embedded computer systems, wireless devices such as cell phones, computer systems, and more particularly to methods, systems and procedures (i.e., programming) for providing application isolation for multiple applications running on a host operating system.

2. Description of Related Art

[0006] In many environments one of the most important features is to ensure that one running application doesn't affect other running applications, and that the crash of one application doesn't compromise other running applications. In many environments applications share system resources, libraries and hardware, which exposes subtle interconnects between seemingly unrelated applications.

[0007] Several approaches have been developed addressing this fundamental problem. The first level of application isolation is provided by the operating system. Modern operating systems such as Linux, UNIX, Windows2000, NT, XP and Vista provide some level of application isolation through the use of processes, and the underlying hardware memory management unit. The use of processes generally ensure that one running application process cannot address memory owned and used by other processes. This first level of isolation does not address the use of shared resources, such as files, file systems, shared memory, and libraries, so other approaches have been developed

[0008] In US 6,496,847 Bugnion et al. teach the use of a virtual machine monitor (VMM) with a protected host operating system (HOS). This invention partially solves the isolation problem by placing every application into its own VMM. The solution requires the use of a VMM subsystem and in some cases a customized operating system. US 6,496,847 does not provide isolation at the level of individual applications, but for entire

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operating systems with all the applications within it. It does not address the problem of application isolation with multiple natively running applications on one host computer.

[0009] In US 6,601,081 Provino et al. teach the use of a virtual machine for a plurality of application programs. As with 6,496,847 the use of a VM subsystem simply moves the problem to a different layer, and does not address the fundamental issue of application isolation with several natively running applications on one host computer.

[0010] In US 7,028,305 Schaefer teaches a system for creating an application protection layer to separate an application from the host operating system. Shaefer primarily teaches how to intercept the Windows registry to capture configuration information for Windows application and how to create a virtual operating environment for the application. Access to files is provided via a virtual file system, access to registry information via the virtual registry etc. For Unix and MacOS few specific teachings are presented.

[0011] The present invention provides a system, method, and computer readable medium to create an application isolation environment where applications can run unmodified, on un-modified operating systems without requiring any virtual environments, virtual machines or virtual machine monitors. The present invention also teaches how to manage and handle applications that share libraries and resources, and how to handle complex multi-process applications. In one embodiment an implementation in the Linux environment is described, in another embodiment an implementation on Windows is described.

BRIEF SUMMARY OF THE INVENTION

[0012] A method, system, apparatus and/or computer program are described for achieving application isolation for single and multi-process applications and their associated resources. The application isolation is provided without requiring any changes to the host operating system kernel or requiring any changes to the applications. The application isolation is fully transparent to both operating system and application and automatically adjusts for resources such as memory, storage, and CPUs being allocated and released. The application isolation is provided in an interception layer interposed between the individual applications and the operating system and an interception

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database. Preferably, any functional changes to system calls are done exclusively within the interception layer and interception database, and only in the context of the calling application.

[0013] Another aspect of the present invention relates to a method and a computer readable medium comprising instructions for application and application group isolation. The instructions are for installing the applications into the isolated environment, running the application in the isolated environment, un-installing applications from the isolated environment, configuring the isolated environments, and deploying the isolated environments.

[0014] Yet another aspect of the invention relates to a system for providing application isolation to one or more applications, the system comprising: one or more isolated environments including application files and executables; one or more interception layers intercepting access to system resources and interfaces; an interception database maintaining mapping between the system resources inside the one or more isolated environments and outside; and a host operating system, wherein the one or more applications are isolated from other applications and the host operating system while running within the one or more isolated environments.

[0015] Definitions:

[0016] The terms “*Windows*” and “*Microsoft Windows*” are utilized herein interchangeably to designate any and all versions of the Microsoft Windows operating systems. By example, and not limitation, this includes Windows XP, Windows Server 2003, Windows NT, Windows Vista, Windows Server 2008, Windows Mobile, and Windows Embedded.

[0017] The terms “*Linux*” and “*UNIX*” are utilized herein to designate any and all variants of Linux and UNIX. By example, and not limitation, this includes RedHat Linux, Suse Linux, Ubuntu Linux, HPUX (HP Unix), and Solaris (Sun Unix).

[0018] The term “*node*” and “*host*” are utilized herein to designate one or more processors running a single instance of an operating system. A virtual machine, such as VMWare or XEN VM instance, is also considered a “*node*”. Using VM technology, it is possible to have multiple nodes on one physical server.

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[0019] The terms “*application*” is utilized to designate a grouping of one or more processes, where each process can consist of one or more threads. Operating systems generally launch an application by creating the application’s initial process and letting that initial process run/execute. In the following teachings we often identify the application at launch time with that initial process.

[0020] The term “*application group*” is utilized to designate a grouping of one or more applications.

[0021] In the following we use commonly known terms including but not limited to “*process*”, “*process ID (PID)*”, “*thread*”, “*thread ID (TID)*”, “*thread local storage (TLS)*”, “*instruction pointer*”, “*stack*”, “*kernel*”, “*kernel module*”, “*loadable kernel module*”, “*heap*”, “*stack*”, “*files*”, “*disk*”, “*CPU*”, “*CPU registers*”, “*storage*”, “*memory*”, “*memory segments*”, “*address space*”, “*semaphore*”, “*loader*”, “*system loader*”, “*system path*”, and “*signal*”. These terms are well known in the art and thus will not be described in detail herein.

[0022] The term “*transport*” is utilized to designate the connection, mechanism and/or protocols used for communicating across the distributed application. Examples of transport include TCP/IP, Message Passing Interface (MPI), Myrinet, Fibre Channel, ATM, shared memory, DMA, RDMA, system buses, and custom backplanes. In the following, the term “*transport driver*” is utilized to designate the implementation of the transport. By way of example, the transport driver for TCP/IP would be the local TCP/IP stack running on the host.

[0023] The term “*interception*” is used to designate the mechanism by which an application re-directs a system call or library call to a new implementation. On Linux and other UNIX variants interception is generally achieved by a combination of LD_PRELOAD, wrapper functions, identically named functions resolved earlier in the load process, and changes to the kernel sys_call_table. On Windows, interception can be achieved by modifying a process’ Import Address Table and creating Trampoline functions, as documented by “Detours: Binary Interception of Win32 Functions” by Galen Hunt and Doug Brubacher, Microsoft Research July 1999”. Throughout the rest of this document we use the term to designate the functionality across all operating systems.

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[0024] The term “*file context*” or “*context*” is used in relation with file operations to designate all relevant file information. By way of example, and not limitation, this includes file name, directory, read/write/append/execute attributes, buffers and other relevant data as required by the operating system.

[0025] The term “*transparent*” is used herein to designate that no modification to the application is required. In other words, the present invention works directly on the application binary without needing any application customization, source code modifications, recompilation, re-linking, special installation, custom agents, or other extensions.

[0026] The terms “*private and isolated environment*” and “*isolated environment*” are used herein interchangeably to designate the private area set aside for application isolation, as described in further detail below.

[0027] The present invention provides application isolation at several levels: 1) during installation, all installation and registration information is intercepted and installation is re-directed to a private and isolated environment, 2) during launch of an application the installation information is retrieved and provided to the application again via interception, and 3) during access to external resources interception of all access is re-directed as necessary. The combination of all levels of isolation provides for fully transparent application isolation. Thus at all times, access to resources, configuration and run-time information is intercepted and redirected.

[0028] By way of example, and not limitation, for embodiments within Windows operating systems, access to the Windows Registry is intercepted and included in the application isolation.

[0029] Further aspects of the invention will be brought out in the following portions of the specification, wherein the detailed description is for the purpose of fully disclosing preferred embodiments of the invention without placing limitations thereon.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

[0030] The invention will be more fully understood by reference to the following drawings which are for illustrative purposes only:

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- [0031]** FIG. 1 is a block diagram of the core system architecture showing two applications, the interception layer, and the interception database.
- [0032]** FIG. 2 is a block diagram illustrating installation and running of applications
- [0033]** FIG. 3 is a block diagram illustrating un-installation
- [0034]** FIG. 4 is a block diagram illustrating the Interception Database
- [0035]** FIG. 5 is a block diagram illustrating running application groups
- [0036]** FIG. 6 is a block diagram illustrating running multiple application groups concurrently
- [0037]** FIG 7. is a block diagram illustrating installation-free deployment
- [0038]** FIG 8. is a block diagram illustrating administration
- [0039]** FIG 9 is a block diagram illustrating various deployment scenarios
- [0040]** FIG 10 is a block diagram illustrating interception data and control flow

DETAILED DESCRIPTION OF THE INVENTION

- [0041]** Referring more specifically to the drawings, for illustrative purposes the present invention will be described in relation to FIG. 1 through FIG. 10. It will be appreciated that the system and apparatus of the invention may vary as to configuration and as to details of the constituent components, and that the method may vary as to the specific steps and sequence, without departing from the basic concepts as disclosed herein.
- [0042]** 1. Introduction.
- [0043]** The context in which this invention is described is one or more applications being installed, running and accessing local and remote resources. Without affecting the general case of multiple applications, the following scenarios often depict and describe one or two applications as applicable. Multiple applications are handled in a similar manner.
- [0044]** 1. Overview
- [0045]** FIG 1 illustrates by way of example embodiment 10 the overall structure of the present invention. The following brief overview illustrates the high-level relationship between the various components; further details on the inner workings and

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interdependencies are provided in the following sections. Fig 1. Illustrates by way of example embodiment 10 two applications A 22 and B 26 loaded in memory 14 on a node 12. The interception layers 16, 17, are interposed between the applications 22, 26 and the system libraries 18 and operating system 20. The interception database 28 provides system-wide persistent interception information and configuration information for the isolated environments. The interception layers 16,17 combined with the Interception database 28 provides application isolation 24. System resources, such as CPUs 36, I/O devices 34, Network interfaces 32 and storage 30 are accessed using the operating system. Devices accessing remote resources use some form of transport network 38. By way of example, system networking 32 may use TCP/IP over Ethernet transport, Storage 32 may use Fibre Channel or Ethernet transport, and I/O may use USB. The present invention access and arbitrate resources through the operating system and does not work at the transport level.

[0046] 2. Installing and Running applications

[0047] FIG. 2 illustrates by way of example embodiment 40 installation of a typical application “AppXYZ” 42. The Interception Layer (IL) 50 intercepts all calls to system libraries and the operating system. IL 50 communicates with the Interception Database (IDB) 58 to create a private and isolated environment where the application can execute without depending on or affecting other parts of the environment. By way of example, and not limitation, first the installation process requests a resource 44, such as opening a file. The resource request is intercepted by IL 50 and a request to create 54 a private instance of the resource is made to the Interception Database (IDB) 58. The IDB 58 is a system wide database containing mappings 60, 62, 64 between the resources as the application 42 requests them 60, and their private values inside the isolated environment 62, subject to global exceptions 64. Further details on the IDB are given in section 4 below. By way of example, and not limitation, if the resource request 44 was to create a file in C:\Program Files\AppDir, the IDB may map that to a private location 62, such as D:\private\AppXYZ\C\Program Files\AppDir. So while AppXYZ 42 operates under the assumption that it’s working on C:\Program Files\AppDir, in reality all access has been intercepted and re-directed to a private and isolated environment in

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D:\private\AppXYZ\C\Program Files\AppDir. The IDB 58 returns 54 the private resource to IL 50, which returns the resource handle 46 to the application 42. As the application 42 uses the resource 46 it operates under the assumption that the original resource request was satisfied, and is unaware that all resources have been relocated to a private and isolated environment. When use of the resource is terminated 48, the IL 50 sends a message to the IDB 58 that the resource currently is inactive 56. All mappings are maintained in the IDB 58 after the installation finishes as they may be needed after the initial request.

[0048] Fig 2 also illustrates, by way of example embodiment 40, how an application 42 runs after being installed. As resources are opened, used, and freed, the same steps as described above are used. As the application 42 executes, it generally access or create resources not used during installation. By way of example, if AppXYZ 42 is a word processor, the user may create a document and save it to storage. That document did not exist as part of the installation process, but is handled using the same mechanisms previously taught. As the user choose to create a new document, AppXYZ 42 makes a request 44 to have the file created. This is intercepted by the IL 50 and forwarded 52 to the IDB 58. The IDB creates a mapping between the Applications 42s public document name 60, and the private and isolated document name 62. As with Application 42 information stored in the IDB 58, so is the application data information stored persistently until un-installation.

[0049] At times it may be desirable to store some user-data outside the isolated environment, such as on a central file server. In a preferred embodiment, this is supported by specifying which resource locations should remain fixed and public in the global exceptions 64. Such public resources are not translated into the isolated environment.

[0050] 3. Uninstalling Applications

[0051] FIG. 3 illustrates by way of example embodiment 80, un-installation of a typical application AppXYZ 82. The un-installation uses and requests resources 84, which are intercepted by the IL 86 and redirected 88 by the IDB 90, as described above. All actions, such as deletion of files, are re-directed to the private and isolated location. When the un-install terminates, sometimes called exit(), the exit is intercepted 92 by the IL 86, and

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forwarded 94 to the IDB 90. The IDB 90 removes all entries mapping 100 application AppXYZ 82 resources 96 against its isolated environment 98. The application is now uninstalled, and all isolation information has been removed.

[0052] 4. Interception Database and Resource Mapping

[0053] The Interception Database (IDB) is a system wide database containing mappings between the resources as the application requests them, and their private values inside the isolated environment. Fig. 4 illustrates, by way of example embodiment 120, the Interception Database (IDB) 122, and its various components. The IDB 122 contains two main components, a rules engine 130 and the core resource mappings 132. The rules engine 130 contains the main high-level configuration information 124 as provided by an administrator 126. The rules engine 130 and its configuration information 124 includes, but is not limited to, information designating the base directory for installing the isolated environment, specific exceptions 138 to the resource mappings and the general mechanism used to create the mappings. The administrator 126 defines exceptions 138 as needed. The global exceptions contain all resources that should not be remapped to the isolated environments. Examples include, but are not limited to, shared storage, shared devices, network resources, and system-wide resources.

[0054] The resource mapping 132 maintains mapping between public resources 134 and the corresponding private and isolated resources 136. The resource mapping 132 also consults the global exceptions 138 prior to translating any public to private or private to public resource requests.

[0055] Resources take many forms including but not limited to files, fonts, shared libraries, shared devices, and storage. On Microsoft Windows the Registry is an important component and contains system wide configuration information used by most applications. Some resources, such as data files, tend to be local to the individual applications, while e.g. fonts tend to be shared between multiple applications.

[0056] Access to files are handled by the IL (Fig. 2 - 50) intercepting all file operations between the application and the system libraries and operating systems. Examples include, but are not limited to open(), fopen(), write(), read(), close(), seek(), remove() and the Windows equivalents. Generally these functions either contain a public file name

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as part of the arguments, or a file handle to an already established file. The files names are remapped as described above, to an isolated environment, and any further reference to the handle is automatically re-directed to the isolated environment. File operations that return information, are translate back to the public values. By way of example, and not limitation, if the applications ask for “current directory”, the public name, as the application expects is returned, and not the private name within the isolated environment. By way of further example, if the current directory is located on shared storage included the global exceptions 138, the directory is returned un-translated, as it’s subject to the exception handling.

[0057] File, paths and other resource names can be specified both as absolute values or relative values. By way of example, and not limitation, an absolute path for a document file may be “C:\MyDocuments\myfile.doc”, while a relative reference may be “..\docs\myfile.doc”. Absolute references are resolved as previously described by consulting the public resources 134, private resources 136 and global exceptions 138. Relative addresses are resolved in a multi-step process: First relative names are converted to absolute names and then the absolute name is converted as previously described. This mechanism ensures fully transparent support of both absolute and relative naming of all resources.

[0058] Fonts pose particular problems, as fonts reside both in application-specific directories and global system directories, such as “C:\Windows\Fonts” on Windows and “/usr/X11R6/lib/X11/fonts/” and “/usr/share/fonts/” on Linux. An application may install font both into one or more global font directories as well as application-specific directories. All shared-fonts directories are included in the Global Exceptions 138 as they should be accessed directly. If during installation additional fonts are installed, they are installed according to the policy chosen by the administrator 126. Prior to installation, the administrator chooses if application–installed fonts are allowed to be placed in the global fonts directory or if they should be placed in the isolated environment. The rules engine 130 consults this administrative choice and upon receiving a request to enumerate the font directory will include isolated-environment fonts if so configured. If the application installs its fonts into its own file structure, the fonts are treated as normal files and are not

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subject to the automatic enumeration as the application knows where to look for its application-specific fonts.

[0059] Modern operating systems share components across multiple applications. Such shared libraries also pose a special case. On Windows Dynamic Link Libraries (DLLs) and on Linux/UNIX shared objects (.so files) are examples of such shared components. On Windows shared libraries primarily reside in C:\Windows and C:\Windows\System32, but can sit anywhere. On Linux/Unix the primary locations are '/usr/lib', '/usr/X11/lib' and the entire /usr/lib/ directory structure. The loader of the operating system traverses the system PATH to find any requested shared library, but this can be manually or programmatically changed as part of the load process. The PATH is set using environment variables both on Windows and Linux. In order to intercept loading of shared libraries the present invention loads the application instead of using the system loader directly. This enables interception of library loading done by the loader. If during installation additional shared libraries are installed, they are installed according to the policy chosen by the administrator 126. Prior to installation, the administrator chooses if application-installed libraries are allowed to be placed in a global directory or if they should be placed in the private and isolated environment. If the libraries are placed into the private and isolated environment, the load PATH is adjusted to search the private location.

[0060] As with files, libraries can be loaded with both absolute and relative addresses. The load process handles the resource mapping as described above. In all cases, the loading must follow the same path and address resolution as the system loader provides.

[0061] If the application installs its shared libraries into its own file structure, the libraries are treated as normal files and are not subject to an adjusted PATH or load-order as the application knows where to look for its application-specific libraries. In the preferred embodiment, if the application installs new shared libraries, they are installed into the isolated environment

[0062] One of the most significant sources of application incompatibilities, and one of the motivators for the present invention, is shared library conflict. By way of example, and not limitation, if a shared library is loaded on the system, and a new application

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installs an older version of the library, the older version may overwrite the newer version and render other applications non-functional based on having their shared library replaced by an incompatible older version. This is a common problem on both the Windows and Linux platforms. Using the preferred embodiment described above, the application would install the older library into its isolated environment and therefore not affect other applications. The application would load and use the older library without ever being aware that it was provided from the isolated environment, and other applications running on the system would be unaffected by the installation of the older library.

[0063] Microsoft Windows uses a special configuration system generally referred to as “the Registry”. The registry contains configuration, installation and un-installation information for applications on the system. When an application installs on a Windows system, it uses the registry to store values such as “home directory”, “recent files”, etc. The preferred embodiment on Windows systems additionally include interception of all registry information, and ensures that installation and runtime information that would normally go into the registry, in stead is stored and maintained in the IDB. During installation of a Windows application all registry information is thus stored in the IDB and not the registry. When an application requests registry information, the information is provided from the IDB, and not the registry. This ensures complete application isolation from the registry.

[0064] The isolated environment contains all application files and shared resources and their respective mappings. These are all preserved persistently on local or remote storage and can be archived, copied and restored as any other set of files. Specifically, the isolated environment directory structure can be copied to a different node, and used directly to start the application on that node.

[0065] So far the Interception database has been described as a “database”. Based on the teachings above, it’s readily apparent to anyone skilled in the art, that the only requirement is that updates to the resource tables 134, 136 and 138 be atomic at the record level. This functionality can be readily implemented in a variety of ways, including using Java’s ConcurrentHashMap(), the Windows .NET equivalents, or by

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custom programming the data structures and locking. Furthermore, preferably concurrent access to the Interception Database translations is provided. In an alternate implementation such a custom interception database is used in stead of a full database.

[0066] 5. Interception data and control flow

[0067] Fig 10 illustrates by way of example embodiment 240 the data and control flow in more detail. By way of example, and not limitation, consider first an environment with the present invention inactive. An application 242 calls a write() 243 operation. The write operation is resolved by the operating system loader and directed 244 to the system libraries 248 and operating system 250, and ultimately writes data to storage 251. Return value is returned 246 to the caller 243 within the calling application 242.

[0068] By way of example, and not limitation, consider an environment with the present invention active. An application 252 calls a write() 253 operation. As described in above, the write() is intercepted 254 by the interception layer 262. Parameters to the write() call are translated by the Interception Database 264 and the rules for the isolated environment 266 and the file context and parameters of the calling write are adjusted to point to the isolated environment. The write call 268 is then forwarded to the system libraries 258 and operating system 260 as were the case with the present invention inactive. The return value 266 from the write is returned to the IL 262 which, using the IDB 264, maps the result back into the original context and returns the value 256 to the caller 253. The application 252 issuing the write 253 operating is thus unaware that the write is being intercepted and re-directed to the isolated environment. All translation and isolation is performed outside the application 252, and before the write operation ever reaches the system libraries 258 or operating system 260.

[0069] A specific example, using ANSI C, further illustrates the mechanics of the IL 262 and IDB 264 translations. Consider an example where a file is opened for writing, a small text is written, and the file is closed using the following code

```
int main(void)
{
    char const *pStr = "small text";
```

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```
FILE *fp = fopen("/home/user/newfile.txt", "w")
if (fp != null)
    fwrite(pStr,strlen(pStr),1,fp);
fclose(fp)
}
```

[0070] The call to fopen() returns a file pointer, which the fwrite() operation uses to write data to the file. The call to fopen() includes the file name “/home/user/newfile.txt” as the first parameter. The Interception Layer 262 intercepts the call to fopen() and changes the actual filename to the corresponding location in the isolated environment before passing 268 the call on to the system library implementation 258. The following fwrite() operation is unaware that the file pointer points to the isolated environment and simply writes the data. Finally, fclose() is called to close the file. The file pointer still points to the isolated environment and the close proceeds as a close would without the present invention active.

[0071] 6. Application Groups

[0072] At times multiple applications share data, libraries and work in combination. By way of example, and not limitation, Microsoft Word may include a Microsoft Excel spreadsheet. In general any number of applications may need to collaborate and share data. So far the approach has been to isolate applications so that, to continue the example, if Word and Excel were installed separately, they would both be isolated and not able to work together. To enable sharing between pre-designated applications, the applications need to be grouped together in an application group and installed inside the same isolated environment. FIG. 5 illustrates by way of example embodiment 140, an application group 142 operating within the present invention. The administrator 152 pre-defines the application group 142 and the individual applications within the group: App-1 143, App-2 144 and App-n 146. The administrator 152 commits the application group to the IDB 150. The IDB uses the same mechanisms as described above for individual applications, and structures the isolated environment 154 so that the individual applications share resources and file system. By installing the applications together they automatically use the same isolated environment and sharing is fully automatic without requiring any

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additional information. The interception layer 148 intercepts, as previously described, and requires no special configuration; all application group information is contained within the IDB 150 and the settings for the isolated environment 154.

[0073] 7. Concurrent operation of multiple application groups

[0074] FIG. 6 illustrates by way of example embodiment 160, concurrent operation of three application groups: application group A 162, application group B 166 and application group C 170. Each application group consists of one or more applications. As previously described each application group has a dedicated interception layer: IL 164 for application group A 162, IL 168 for application group B 166, and IL 172 for application group C 170. Each interception layer 164, 168, 172 provide the interception services as previously described, with each attached to only one application group. As previously disclosed, the Interception Database 174 is global, and is shared between all application groups and interception layers.

[0075] The administrator 176 commits all administrative settings to the IDB 174, which is reflected in the database tables for the isolated environment 178.

[0076] 8. Running multiple concurrent instances of one application

[0077] At times it may be desirable to run multiple instances of the same application or application group, but in separate isolated environments. Referring again to Fig. 6 for illustrative purposes. The administrator 176 defines each instance of the application group using separate application group names. Even though Application Group A 162, Application Group B 166, and Application Group C 170 are identical, they have been pre-defined with their own environment, and thus run in separate isolated environments without any further intervention or configuration.

[0078] 9. Installation-free deployment

[0079] One of the major problems with application deployment is the actual installation and the associated risks as described previously. Using the present invention, a pre-created isolated environment can be used in place of performing an actual installation. The isolated environment contains all application files, shared libraries, and installation data and can be moved, copied and run from anywhere the present invention is present.

[0080] Fig. 7 illustrates by way of example embodiment 180, how to deploy an isolated

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environment without needing more than one initial installation 181. First the administrator 196 installs 184 the application group 182. As previously taught the interception database 186 creates an isolated environment 188 which contains all application group data, including shared files, data and programs. As taught above, the isolated environment is written to storage and can be copied and run elsewhere. With the isolated environment ensuring isolation from the underlying operating system and applications, an isolated environment can be deployed on a different node by copying the entire isolated environment directory structure to the new node and starting the application. Referring to Fig 7, the administrator 196 copies the isolated environment 188 into the first node 190, the second node 192 and the third node 194.

[0081] In an alternate embodiment, the environment 188 is stored on shared storage, and is accessed directly from the shared storage. In this embodiment, the isolated environment is loaded directly from shared storage, and only local data, such as temporary files, are kept locally.

[0082] In another embodiment, the environment 188 is saved to storage and shipped to a remote site. The remote site loads the environment and runs the applications directly from within the environment without any installations. In this embodiment the present invention may be used for disaster recovery.

[0083] 10. Administration

[0084] Fig. 8 illustrates by way of example embodiment 200, the management infrastructure. The administrator 202 communicates configuration preferences to the Interception database 204 for each isolated environment 206. The IDB 204 contains, as described above, two separate modules: 1) a rules engine (Fig 4 – 130) and 2) management of the resource mappings (Fig. 4 – 132). The rules engine implements the administrator provided resource translations and populates the tables (Fig 4 – 134,136,138).

[0085] The administrator 202 provides general configuration information applicable to all isolated environments and applications 203, unless explicitly changed for a particular isolated environment 205. Examples of administrator-provided global configuration information 203 includes, but is not limited to

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- [0086]** * Default storage location for all isolated environments
- [0087]** * Default resource exceptions
- [0088]** * Default application and application group naming
- [0089]** * Default policy for installing fonts and shared resources into global or isolated environment
- [0090]** Each setting can be changed, i.e. replaced, on an application by application basis, and on an application-group by application basis. As determined by the administrator, examples of administrator-provided application-level configuration information 205 include, but is not limited to
 - [0091]** * Storage location for isolated environment
 - [0092]** * Logical name of application or application group
 - [0093]** * Application or application-group specific resource exceptions
 - [0094]** * Policy for installing fonts and shared resources into global or isolated environment
- [0095]** The combination of the global configuration information 203 with the rules engine (Fig 4 – 130), makes the configuration and deployment on new isolated environment fully automatic after the initial global configuration has been provided. As described, it may be desirable to change one or more of an application's isolated environment settings. By way of example, and not limitation, if a particular application needs to locally access certain resources only available on a particular server, that one application's isolated environment would be located on that particular server, while all other environments were centrally stored. The ability to “mix and match” environments and deployments ensure full flexibility and ability to deploy multiple applications in a heterogeneous environment with all the benefits of the present invention.
- [0096]** In another embodiment the administrative functions 202 is done programmatically using an Application Programming Interface (API).
- [0097]** 11. Deployment Scenarios
- [0098]** FIG 9 illustrates by way of example embodiment 220 a variety of ways the invention can be configured to operate. In one embodiment, the invention is configured to run from a central file server 222, in another it is configured to run on a pair of

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application servers 224, 226. In a third embodiment the invention is configured to run on a LAN 228 connected PC 232 together with the application servers 224, 226, and with environments loaded from the central file server 222. In a fourth embodiment the invention is configured to isolate applications on a cell phone 230, which is wirelessly connected 238 to the Internet 236, the application servers 224,226 and the file server 222. A fifth embodiment has an isolated environment on a home-PC 234 connected via the internet 236 to the application servers 224,226 and the LAN PC 232. The invention runs on one or more of the devices, can be distributed across two or more of these elements, and allows for running the invention on any number of the devices (222,224,226,230,232,234) at the same time

[0099] 12. Conclusion.

[00100] In the embodiments described herein, an example programming environment was described for which an embodiment of programming according to the invention was taught. It should be appreciated that the present invention can be implemented by one of ordinary skill in the art using different program organizations and structures, different data structures, and of course any desired naming conventions without departing from the teachings herein. In addition, the invention can be ported, or otherwise configured for, use across a wide-range of operating system environments.

[00101] Although the description above contains many details, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the exemplary embodiments of this invention. Therefore, it will be appreciated that the scope of the present invention fully encompasses other embodiments which may become obvious to those skilled in the art, and that the scope of the present invention is accordingly to be limited by nothing other than the appended claims, in which reference to an element in the singular is not intended to mean “one and only one” unless explicitly so stated, but rather “one or more.” All structural and functional equivalents to the elements of the above-described preferred embodiment that are known to those of ordinary skill in the art are expressly incorporated herein by reference and are intended to be encompassed by the present claims. Moreover, it is not necessary for a device or method to address each and every problem sought to be solved by the present invention,

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for it to be encompassed by the present claims. Furthermore, no element, component, or method step in the present disclosure is intended to be dedicated to the public regardless of whether the element, component, or method step is explicitly recited in the claims. No claim element herein is to be construed under the provisions of 35 U.S.C. 112, sixth paragraph, unless the element is expressly recited using the phrase “means for.”

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CLAIMS

What is claimed is:

1. A system, comprising:
one or more central processing units; and
one or more isolated environments including one or more applications and executables;
wherein the one or more central processing units and the one or more isolated environments are configured to interact with each other;
wherein the one or more isolated environments are created during installation of the one or more applications, and updates to the one or more isolated environments occur as the one or more applications use additional resources while they run;
wherein the one or more isolated environments are removed as part of an uninstall of the one or more applications;
wherein the one or more isolated environments are stored for retrieval at a later time after the uninstall of the one or more applications.
2. The system according to claim 1, wherein the one or more applications are isolated from other applications and a host operating system while running within the one or more isolated environments.
3. The system according to claim 1 comprising one or more interception layers configured to intercept access to host operating system resources and host operating system interfaces.
4. The system according to claim 3, wherein the one or more interception layers intercept calls to the host operating system and system libraries created by the one or more applications.
5. The system according to claim 1 comprising an interception database configured to maintain mapping between host operating system resources inside the one or more isolated environments and outside.

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6. The system according to claim 5, wherein the interception database translates parameters and contexts between a host environment and the one or more isolated environments.
7. The system according to claim 1, wherein the one or more isolated environments are stored on a local storage.
8. The system according to claim 1, wherein the one or more isolated environments are stored on a networked storage and the one or more applications are delivered over a network.
9. The system according to claim 1, wherein each of the one or more applications is installed into its own isolated environment.
10. The system according to claim 1, wherein two or more applications are installed into a shared isolated environment.
11. The system according to claim 10, wherein the two or more applications share resources inside the shared isolated environment.
12. The system according to claim 1, wherein two or more applications are installed into separate isolated environments and the one or more applications run concurrently in the separate isolated environments.
13. The system according to claim 1, wherein a first application of the one or more applications is installed twice into separate isolated environments, and the separate isolated environments run concurrently and independently.

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14. A method, comprising:
 - creating one or more isolated environments during installation of the one or more applications, and updating the one or more isolated environments as the one or more applications use additional resources while running;
 - removing the one or more isolated environments as part of uninstalling the one or more applications; and
 - storing the one or more isolated environments for retrieval at a later time after the one or more applications are uninstalled.
15. The method of claim 14 comprising intercepting access to system resources and interfaces at one or more interception layers.
16. The method of claim 15 comprising maintaining mapping between the system resources inside the one or more isolated environments and outside.
17. The method of claim 14 comprising isolating the one or more applications from other applications and a host operating system while running within the one or more isolated environments.
18. A non-transitory computer readable storage medium comprising instructions for:
 - creating one or more isolated environments during installation of the one or more applications, and updating the one or more isolated environments as the one or more applications use additional resources while running;
 - removing the one or more isolated environments as part of uninstalling the one or more applications; and
 - storing the one or more isolated environments for retrieval at a later time after the one or more applications are uninstalled.

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19. The non-transitory computer readable storage medium of claim 18 comprising instructions for maintaining mapping between the system resources inside the one or more isolated environments and outside.

20. The non-transitory computer readable storage medium of claim 19 comprising instructions for isolating the one or more applications from other applications and a host operating system while running within the one or more isolated environments.

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ABSTRACT

A system, method, and computer readable medium for providing application isolation to one or more applications and their associated resources. The system may include one or more isolated environments including application files and executables, and one or more interception layers intercepting access to system resources and interfaces. Further, the system may include an interception database maintaining mapping between the system resources inside the one or more isolated environments and outside, and a host operating system. The one or more applications may be isolated from other applications and the host operating system while running within the one or more isolated environments.

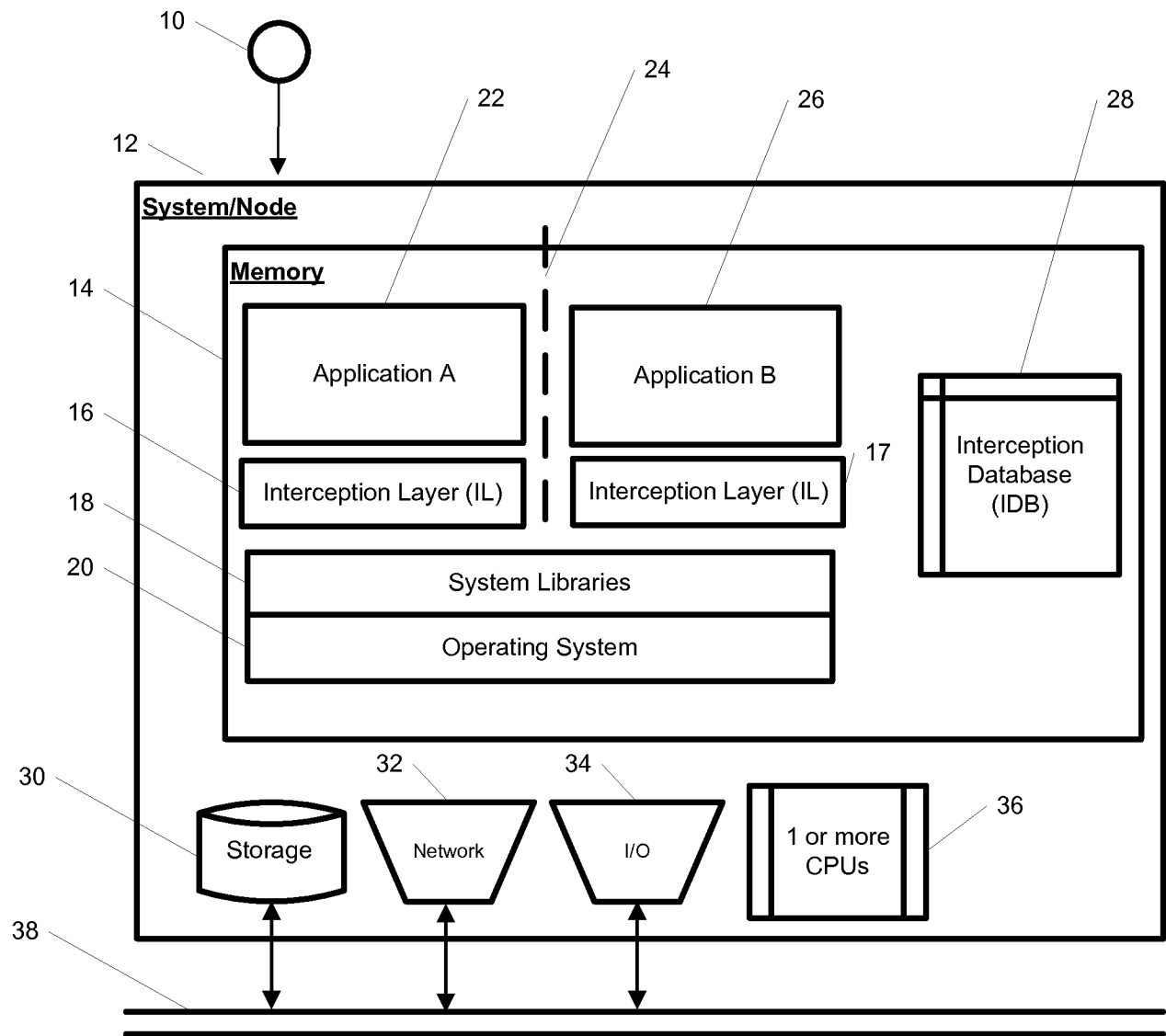


FIG.1 – System Overview

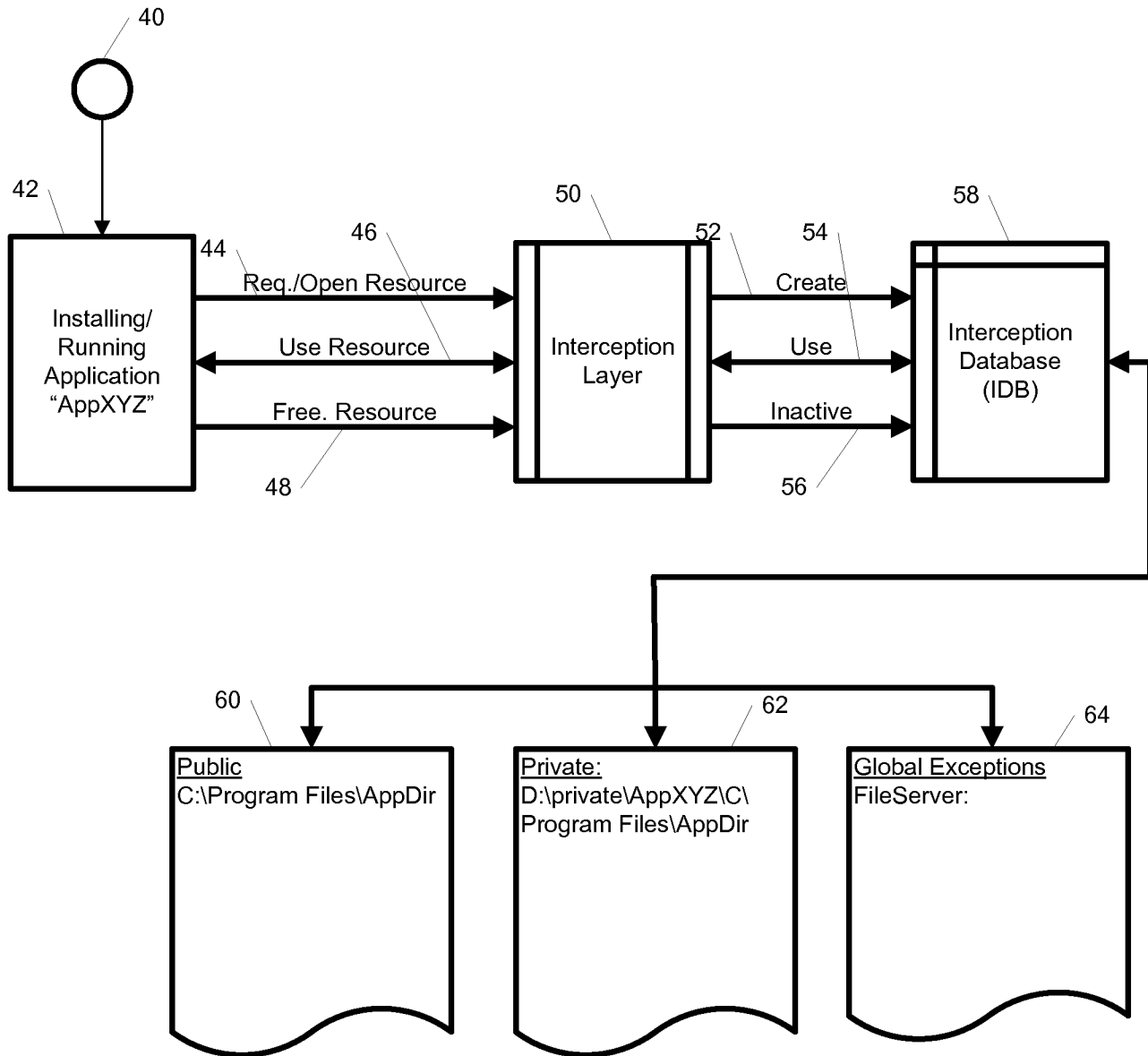


FIG.2 – Installing and running an Application

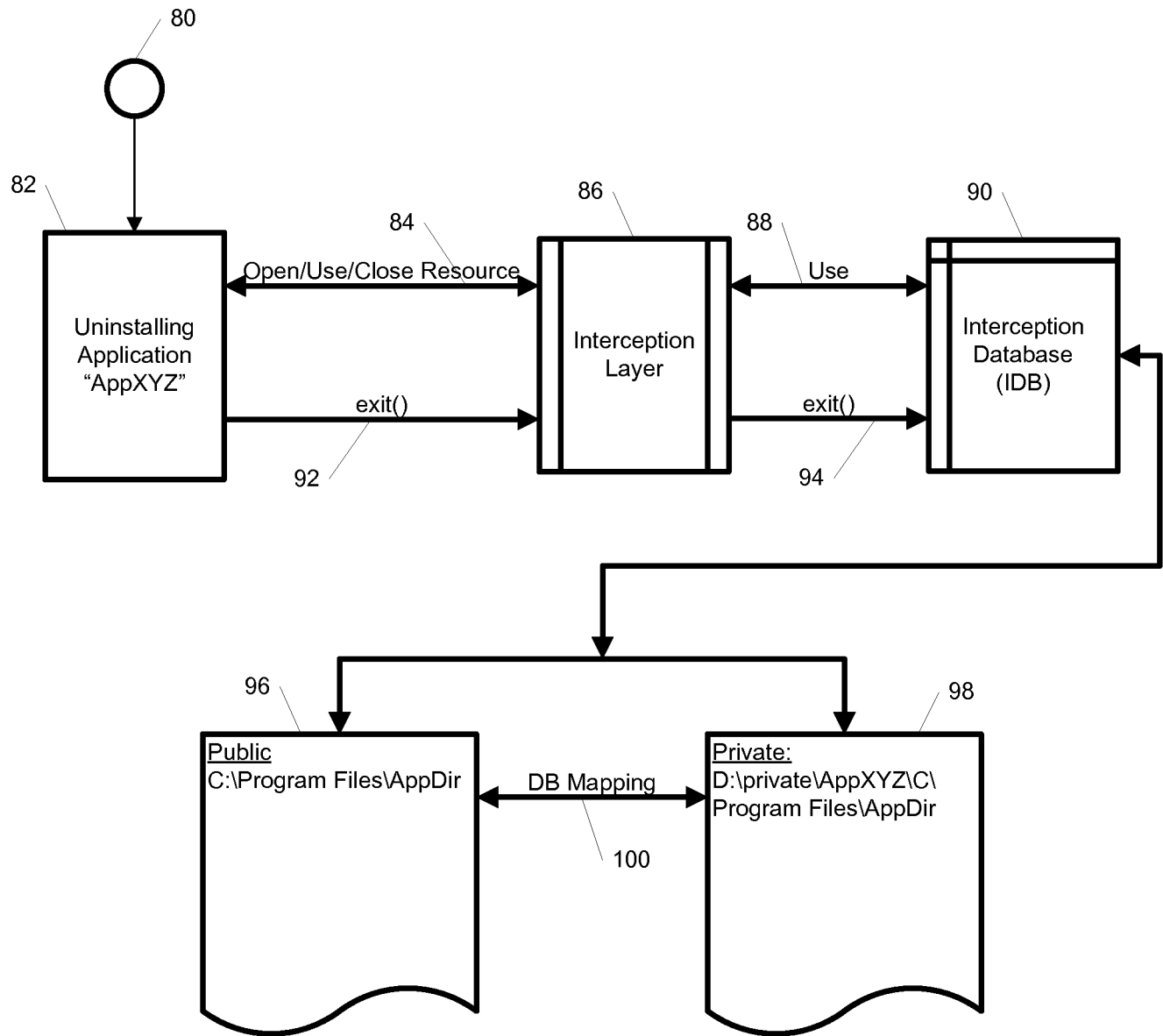


FIG.3 – Un-Installing an Application

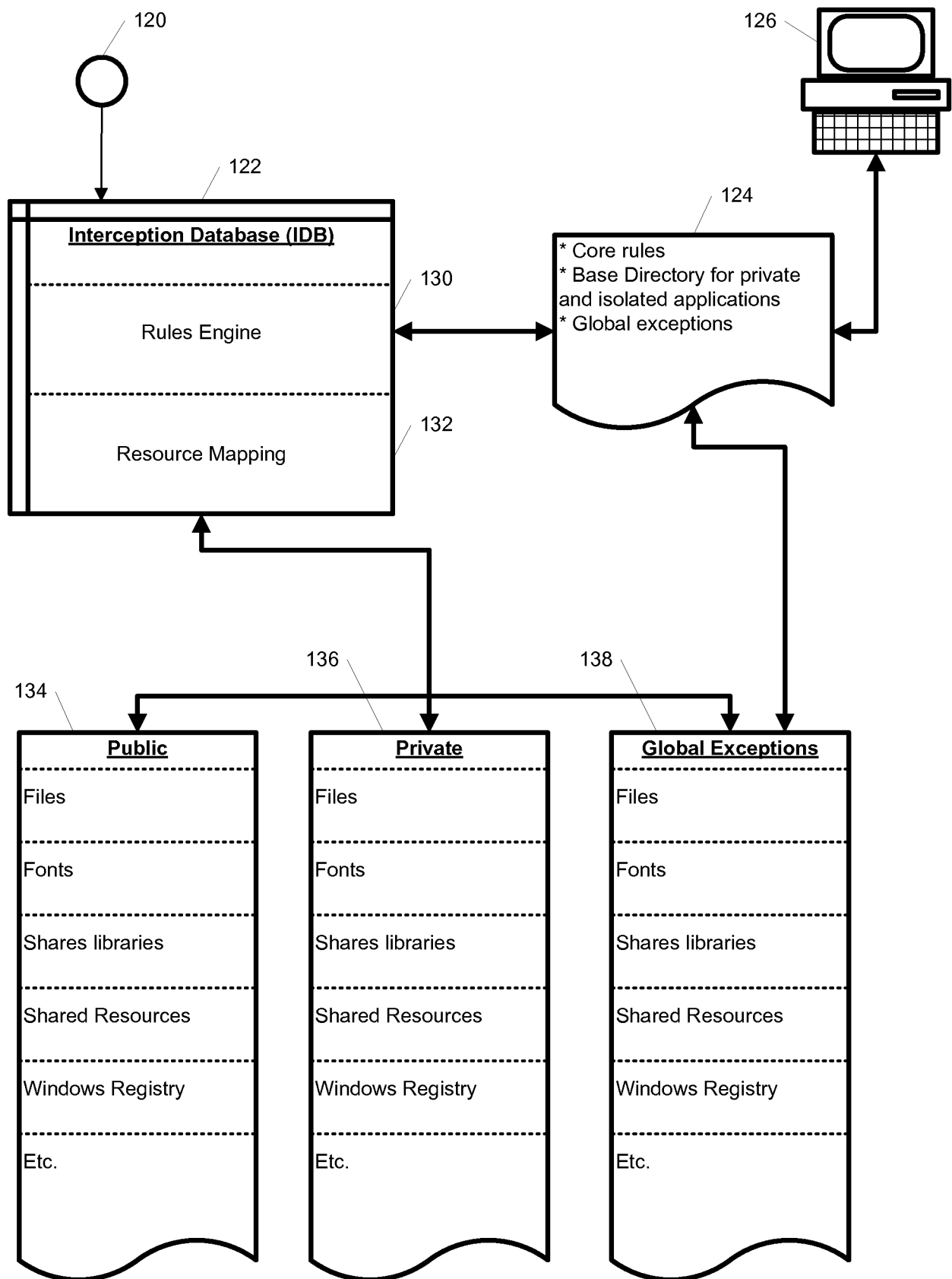


FIG.4 – Interception Database (IDB)

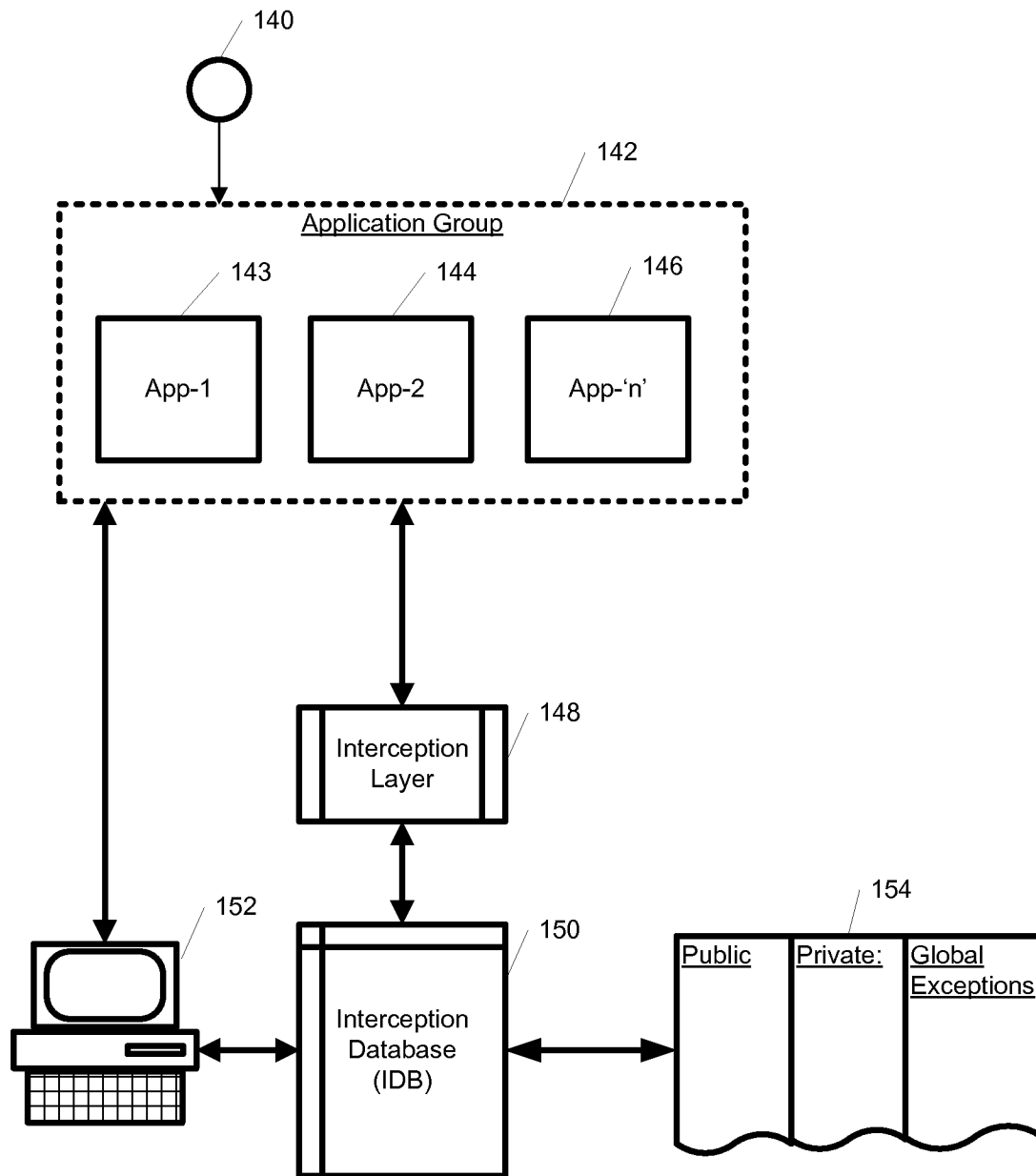


FIG.5 – Application Groups

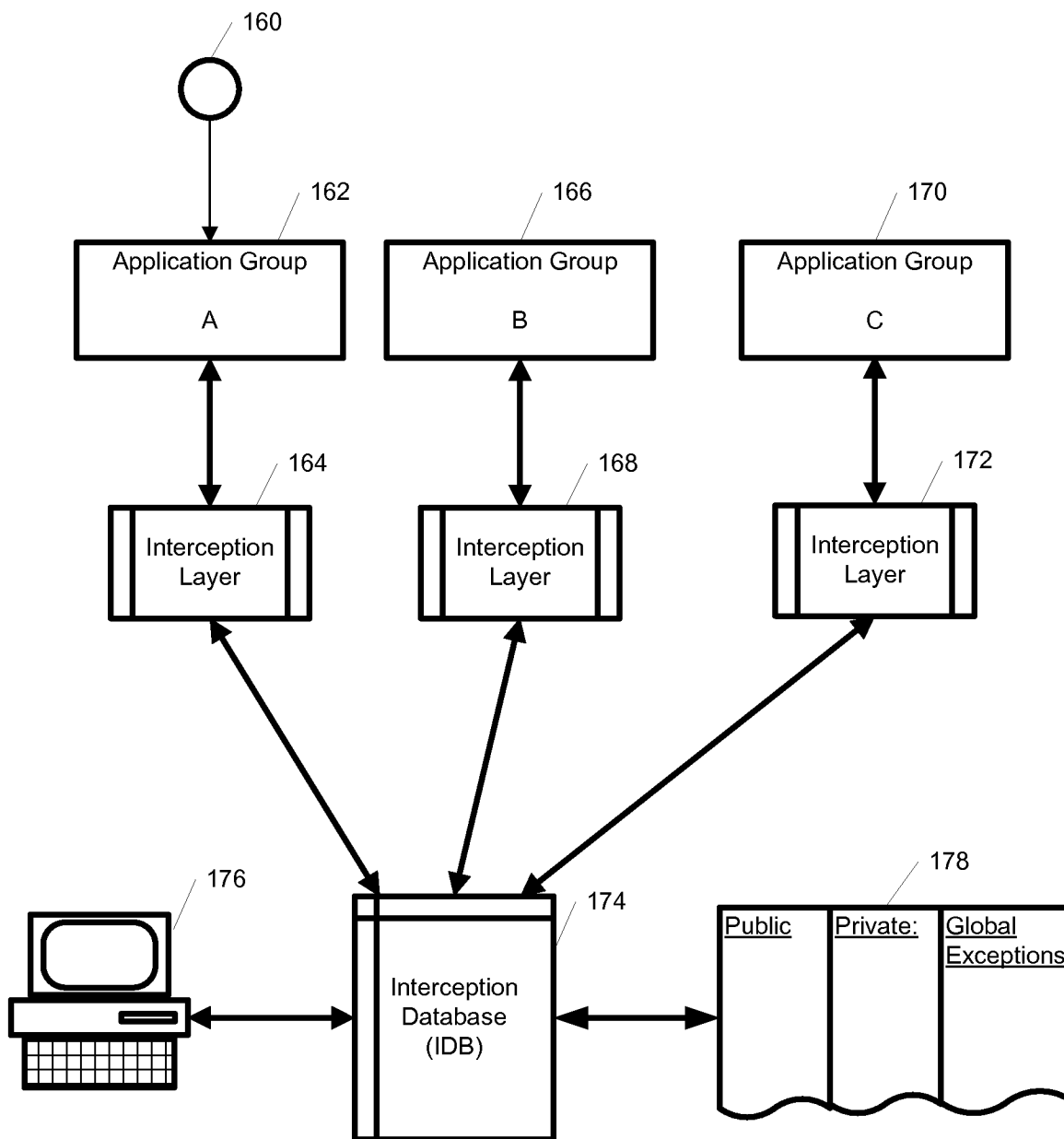


FIG.6 – Multiple Application Groups

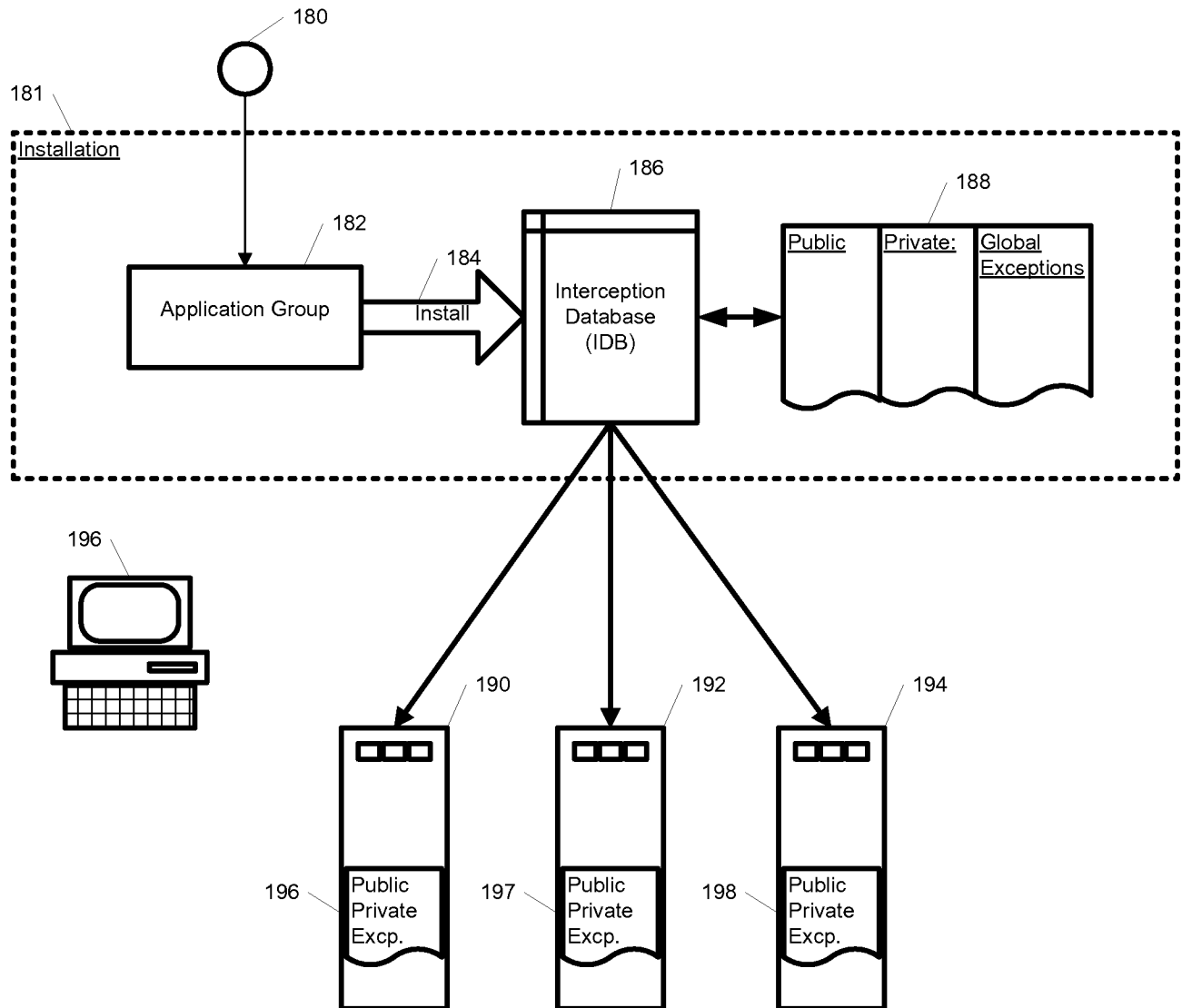


FIG.7 – Installation free deployment

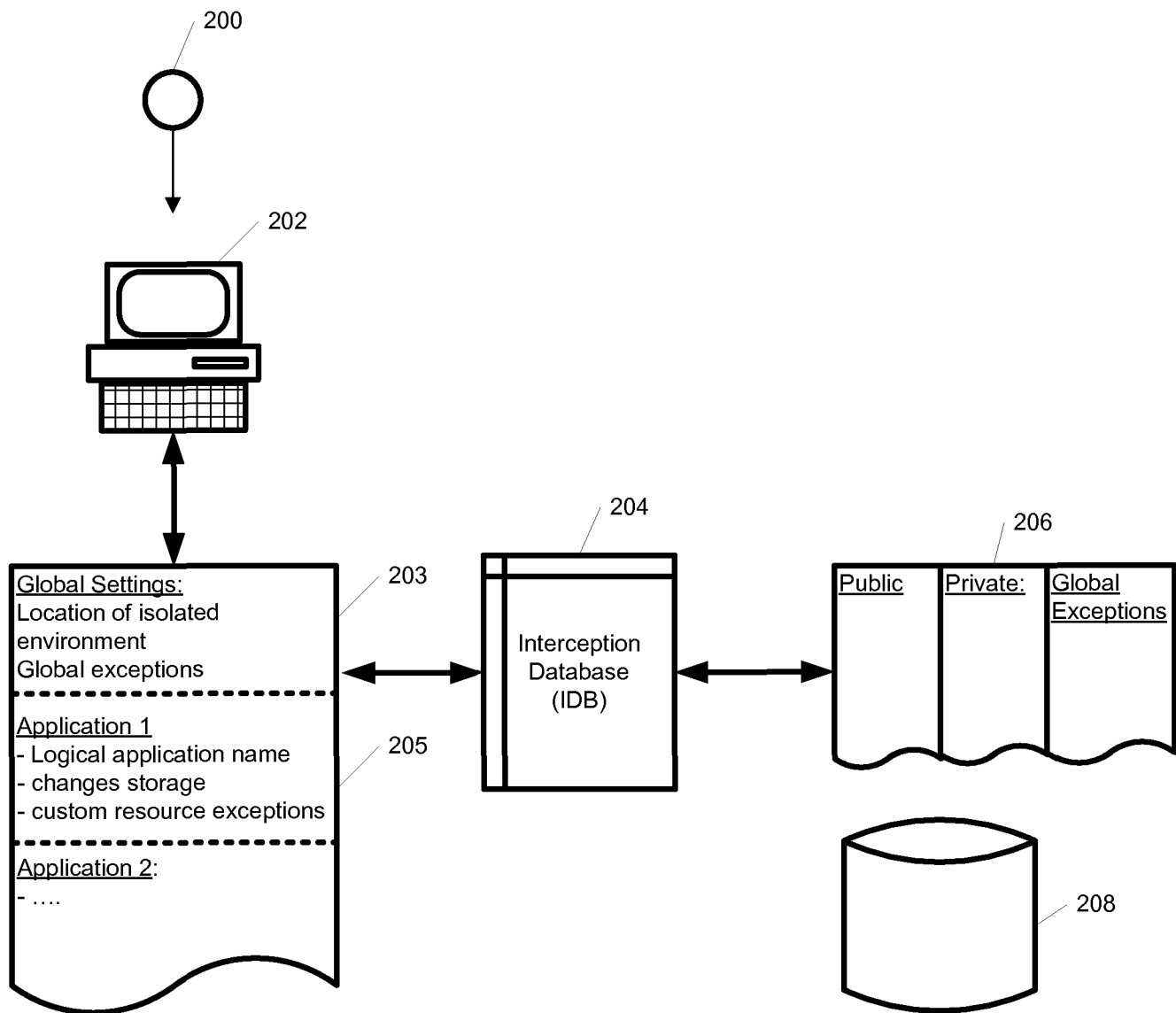


FIG.8 – Administration

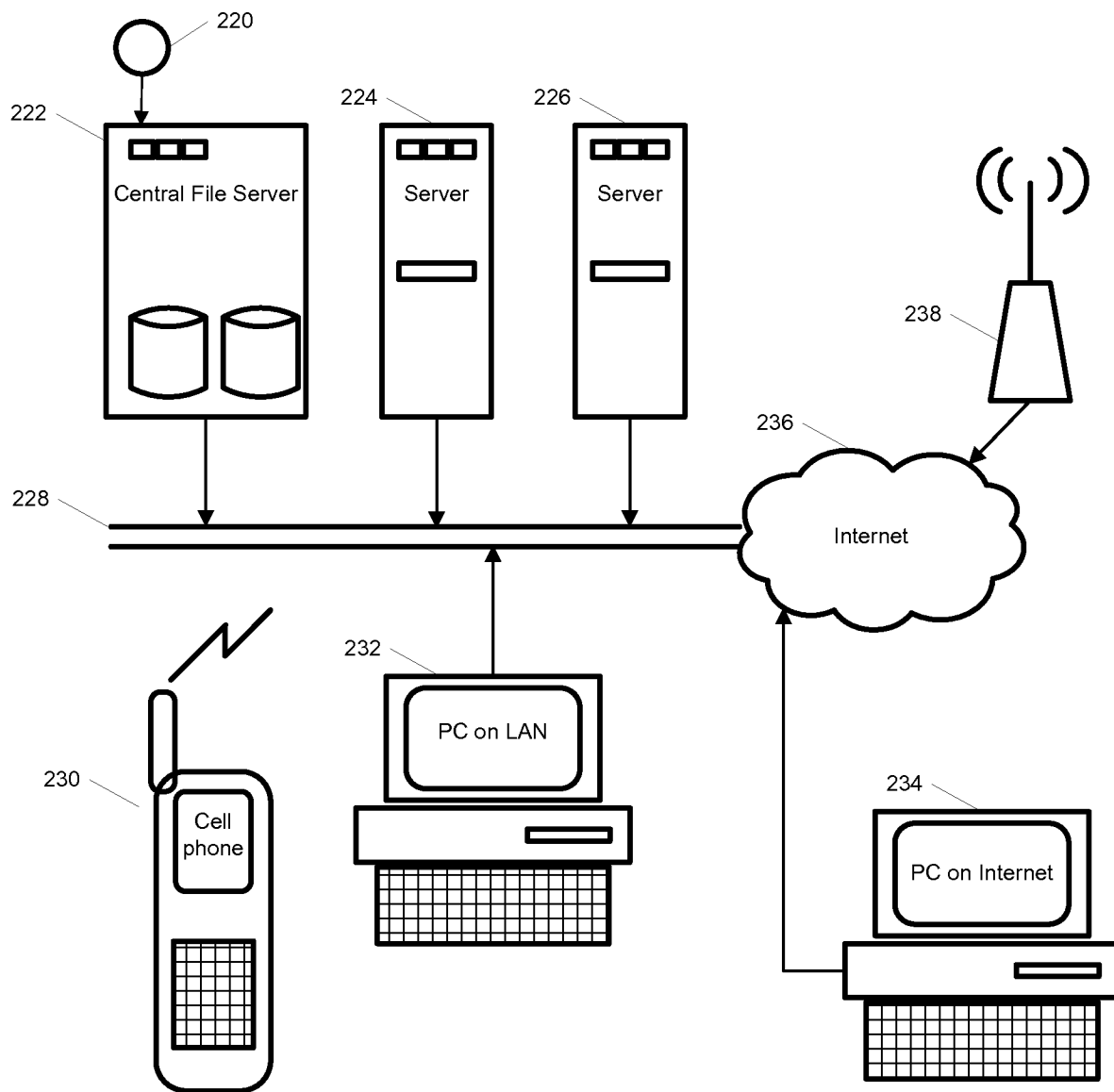


Fig.9 – Deployment scenarios

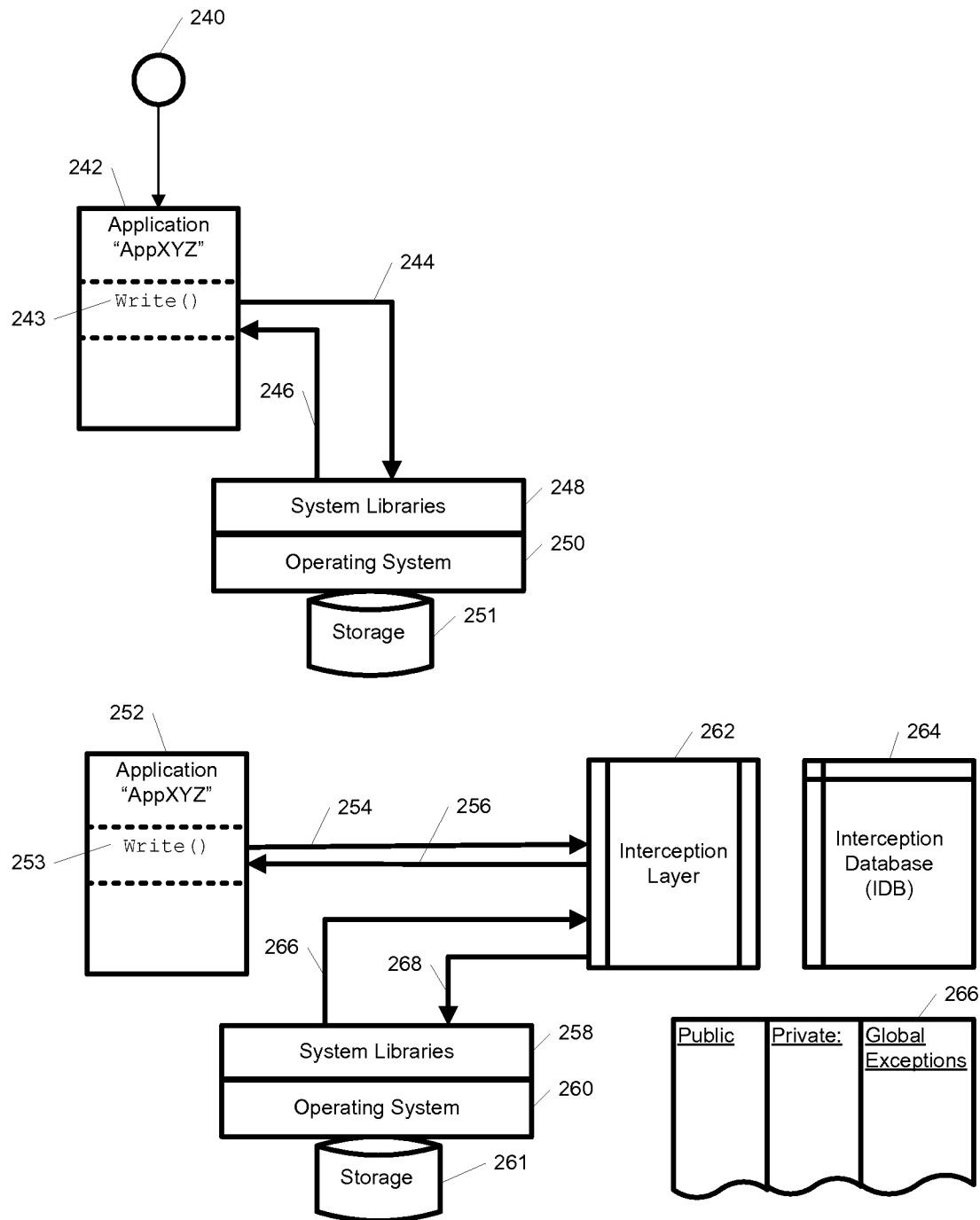


FIG.10 – Detailed control and dataflow

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**NONPUBLICATION REQUEST
UNDER
35 U.S.C. 122(b)(2)(B)(i)**

First Named Inventor	HAVEMOSE, Allan
Title	SYSTEM AND METHOD FOR APPLICATION IS
Attorney Docket Number	Avail0109-C1

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).

/Raffi Gostanian/

December 7, 2012

Signature

Date

Raffi Gostanain

42595

Typed or printed name

Registration Number, if applicable

972-849-1310

Telephone Number

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing**.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

This collection of information is required by 37 CFR 1.213(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS	Application Number	
	Filing Date	12/07/2012
	First Named Inventor	HAVEMOSE, Allan
	Title	System and Method for Application Isolation
	Art Unit	NA
	Examiner Name	NA
	Attorney Docket Number	Avail0109-C1

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

84646

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified application to:

☒ The address associated with the above-mentioned Customer Number.

OR

☐ The address associated with Customer Number:

OR

<input type="checkbox"/> Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

I am the:

☐ Applicant/Inventor.

OR

☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) (Form PTO/SB/96) submitted herewith or filed on _____.

SIGNATURE of Applicant or Assignee of Record

Signature	/Keith Bergelt/	Date	Dec 7, 2012
Name	Keith Bergelt	Telephone	+1 (919) 313-4902
Title and Company	President and CEO, Open Invention Network LLC		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

STATEMENT UNDER 37 CFR 3.73(b)Applicant/Patent Owner: Open Invention Network LLCApplication No./Patent No.: 12/421,691 Filed/Issue Date: 04/10/2009Entitled: System and Method for Application Isolation

Open Invention Network LLC, a Corporation
 (Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest
 (The extent (by percentage) of its ownership interest is _____ %)

in the patent application/patent identified above by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 022531, Frame 0595, or for which a copy therefore is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:
1. From: _____ To: _____
 The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.
2. From: _____ To: _____
 The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.
3. From: _____ To: _____
 The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☒ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Keith Bergelt/

Signature

December 7, 2012

Date

Keith Bergelt

Printed or Typed Name

919-313-4902

Telephone Number

President and CEO

Title

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		System and Method for Application Isolation		
First Named Inventor/Applicant Name:		Allan Havemose		
Filer:		Raffi Gostanian/Michele Zarinelli		
Attorney Docket Number:		Avail0109-C1		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	390	390
Utility Search Fee	1111	1	620	620
Utility Examination Fee	1311	1	250	250
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	1051	1	130	130
Petition:				

6954

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1390

Electronic Acknowledgement Receipt

EFS ID:	14415885
Application Number:	13708477
International Application Number:	
Confirmation Number:	6261
Title of Invention:	System and Method for Application Isolation
First Named Inventor/Applicant Name:	Allan Havemose
Customer Number:	84646
Filer:	Raffi Gostanian/Michele Zarinelli
Filer Authorized By:	Raffi Gostanian
Attorney Docket Number:	Avail0109-C1
Receipt Date:	07-DEC-2012
Filing Date:	
Time Stamp:	17:03:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1390
RAM confirmation Number	4157
Deposit Account	505904
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	Patent_Application_Transmittal.pdf	1150687	no	2
			535e70f3c4127398b227fde36fd88760ace890cd		
Warnings:					
Information:					
2	Application Data Sheet	Application_Data_Sheet.pdf	836692	no	4
			13882936c592d12b5dcbdbc803cd8d1ba1b5a11a		
Warnings:					
Information:					
3		Application.pdf	180999	yes	25
			8fa80e3aa5c114547d21a15674c743e48d74d02b		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	20	
	Claims		21	24	
	Abstract		25	25	
Warnings:					
Information:					
4	Drawings-only black and white line drawings	Drawings.pdf	98095	no	10
			eae84766422242adf5edb67c65ee92e9bcc4027b		
Warnings:					
Information:					
5	Nonpublication request from applicant.	NonPub_Request.pdf	210670	no	1
			8f9c269548b5386b521f166274394b12a730492d		
Warnings:					
Information:					
6	Power of Attorney	POA.pdf	1223397	no	2
			113d8da0a1813edfa1ffc6d4a9348197c3540163		
Warnings:					

Information:					
7	Assignee showing of ownership per 37 CFR 3.73.	Statement.pdf	409944 be62e870b499aad37486d7981c2e43a996ac15e	no	1
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	35916 07b1bd94399758c172e63402296b98d712f6d126	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			4146400		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Electronic Acknowledgement Receipt

EFS ID:	14415885
Application Number:	13708477
International Application Number:	
Confirmation Number:	6261
Title of Invention:	System and Method for Application Isolation
First Named Inventor/Applicant Name:	Allan Havemose
Customer Number:	84646
Filer:	Raffi Gostanian/Michele Zarinelli
Filer Authorized By:	Raffi Gostanian
Attorney Docket Number:	Avail0109-C1
Receipt Date:	07-DEC-2012
Filing Date:	
Time Stamp:	17:03:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 1390
RAM confirmation Number	4157
Deposit Account	505904
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	Patent_Application_Transmittal.pdf	1150687	no	2
			535e70f3c4127398b227fde36fd88760ace890cd		
Warnings:					
Information:					
2	Application Data Sheet	Application_Data_Sheet.pdf	836692	no	4
			13882936c592d12b5dcbdbc803cd8d1ba1b5a11a		
Warnings:					
Information:					
3		Application.pdf	180999	yes	25
			8fa80e3aa5c114547d21a15674c743e48d74d02b		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	20	
	Claims		21	24	
	Abstract		25	25	
Warnings:					
Information:					
4	Drawings-only black and white line drawings	Drawings.pdf	98095	no	10
			eae84766422242adf5edb67c65ee92e9bcc4027b		
Warnings:					
Information:					
5	Nonpublication request from applicant.	NonPub_Request.pdf	210670	no	1
			8f9c269548b5386b521f166274394b12a730492d		
Warnings:					
Information:					
6	Power of Attorney	POA.pdf	1223397	no	2
			113d8da0a1813edfa1ffc6d4a9348197c3540163		
Warnings:					

Information:					
7	Assignee showing of ownership per 37 CFR 3.73.	Statement.pdf	409944 be62e870b499aad37486d7981c2e43a996ac15e	no	1
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	35916 07b1bd94399758c172e63402296b98d712f6d126	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			4146400		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

PTO/AIA/91 (06-12)

Approved for use through 01/31/2014. OMB 0651-0032

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of
Invention

System and Method for Application Isolation

As the below named inventor, I hereby declare that:

This declaration
is directed to:

☐

The attached application, or

☒

United States application or PCT international application number 13/708,477
filed on December 7, 2012

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Allan Havemose

Date (Optional): 12/7/2012

Signature: Allan Havemose

Note: An application data sheet (PTO/AIA/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/SB/AIA/1 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9198 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	14581957
Application Number:	13708477
International Application Number:	
Confirmation Number:	6261
Title of Invention:	SYSTEM AND METHOD FOR APPLICATION ISOLATION
First Named Inventor/Applicant Name:	Allan Havemose
Customer Number:	84646
Filer:	Raffi Gostanian/Michele Zarinelli
Filer Authorized By:	Raffi Gostanian
Attorney Docket Number:	Avail0109-C1
Receipt Date:	28-DEC-2012
Filing Date:	
Time Stamp:	17:43:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	sb0021_Transmittal.pdf	263286 2369943d5a15c4da8bffa3db7b9754810fa2b810	no	2

Warnings:**Information:**

2	Oath or Declaration filed	Declaration_Signed.pdf	283972 7ebbb8030466364fafc61c792e8c2cbe9536dcfab	no	1
Warnings:					
Information:					
Total Files Size (in bytes):				547258	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	13/708,477	
	Filing Date	December 7, 2012	
	First Named Inventor	HAVEMOSE, Allan	
	Art Unit	2817	
	Examiner Name	NA	
Total Number of Pages in This Submission	3	Attorney Docket Number	Avail0109-C1

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Declaration
<input type="text"/> Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	RG & Associates		
Signature	/Raffi Gostanian/		
Printed name	Raffi Gostanian		
Date	December 28, 2012	Reg. No.	42,595

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature	/Michele Zarinelli/		
Typed or printed name	Michele Zarinelli	Date	December 28, 2012

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/708,477				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	390			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	620			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	250			
TOTAL CLAIMS (37 CFR 1.16(j))	20	minus 20 = *			OR	x 62 =	0.00			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *				x 250 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
			TOTAL			TOTAL	1260			
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/708,477	12/07/2012	2817	1390	Avail0109-C1	20	3

CONFIRMATION NO. 6261

84646
Haynes and Boone, LLP
IP Docketing
2323 Victory Avenue
Suite 700
Dallas, TX 75219

FILING RECEIPT



Date Mailed: 01/11/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Allan Havemose, Arroyo Grande, CA;

Applicant(s)

Open Invention Network LLC, Durham, NC

Assignment For Published Patent Application

OPEN INVENTION NETWORK LLC, Durham, NC

Power of Attorney: The patent practitioners associated with Customer Number 84646

Domestic Priority data as claimed by applicant

This application is a CON of 12/421,691 04/10/2009 PAT 8341631

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 01/07/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/708,477**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

SYSTEM AND METHOD FOR APPLICATION ISOLATION

Preliminary Class

333

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/708,477	12/07/2012	Allan Havemose	Avail0109-C1

CONFIRMATION NO. 6261

POA ACCEPTANCE LETTER



OC000000058495049

84646
Haynes and Boone, LLP
IP Docketing
2323 Victory Avenue
Suite 700
Dallas, TX 75219

Date Mailed: 01/11/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 12/07/2012.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/qnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

In place of PTO-1449 Form		U. S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	13/708,477
				Filing Date	December 7, 2012
				First Inventor Name	Havemose
				Art Unit	2199
				Examiner Name	Lewis Alexander Bullock, Jr.
SHEET	1	OF	3	Attorney Docket Number	48731.775

U. S. PATENTS

Examiner's Initials	Cite No.	Document Number	Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	A1	5774660	06-30-1998	Brendel, et al.
	A2	5951650	09-14-1999	Bell, et al.
	A3	5996016	11-30-1999	Thalheimer, et al.
	A4	6021408	02-01-2000	Ledain, et al.
	A5	6026499	02-15-2000	Shirakihara, et al.
	A6	6085086	07-04-2000	La Porta, et al.
	A7	6105148	08-15-2000	Chung, et al.
	A8	6144999	11-07-2000	Khalidi, et al.
	A9	6154877	11-28-2000	Ramkumar, et al.
	A10	6161219	12-12-2000	Ramkumar, et al.
	A11	6189111	02-13-2001	Alexander, et al.
	A12	6269442	07-31-2001	Oberhauser, et al.
	A13	6314567	11-06-2001	Oberhauser, et al.
	A14	6321275	11-20-2001	McQuistan, et al.
	A15	6484276	11-19-2002	Singh, et al.
	A16	6496847	12-17-2002	Bugnion, et al.
	A17	6496979	12-17-2002	Chen, et al.
	A18	6560626	05-06-2003	Hogle, et al.
	A19	6574618	06-03-2003	Eylon, et al.
	A20	6601081	07-29-2003	Provino, et al.
	A21	6718538	04-06-2004	Mathiske
	A22	6766314	07-20-2004	Burnett
	A23	6823474	11-23-2004	Kampe, et al.
	A24	7028305	04-11-2006	Schaefer
	A25	7058696	06-06-2006	Phillips, et al.
	A26	7076555	07-11-2006	Orman, et al.
	A27	7089294	08-08-2006	Baskey, et al.
	A28	7093086	08-15-2006	Van Rietschote
	A29	7096388	08-22-2006	Singh, et al.
	A30	7127713	10-24-2006	Davis, et al.
	A31	7197700	03-27-2007	Honda, et al.
	A32	7207039	04-17-2007	Komarla, et al.
	A33	7213246	05-01-2007	Van Rietschote, et al.
	A34	7246256	07-17-2007	De La Cruz, et al.
	A35	7257811	08-14-2007	Hunt, et al.
	A36	7269645	09-11-2007	Goh, et al.
	A37	7363365	04-22-2008	Ocko, et al.
	A38	7370071	05-06-2008	Greschler, et al.
	A39	7447896	11-04-2008	Smith, et al.
	A40	7467370	12-16-2008	Proudlar, et al.
	A41	7512815	03-31-2009	Munetoh
	A42	7519963	04-14-2009	Blaser, et al.
	A43	7523344	04-21-2009	Qiao, et al.
	A44	7543182	06-02-2009	Branda, et al.
	A45	7613921	11-03-2009	Scaralata
	A46	7673308	03-02-2010	McMillan, et al.
	A47	7694123	04-06-2010	Prasse, et al.
	A48	7725763	05-25-2010	Vertes, et al.
	A49	7761573	07-20-2010	Travostino, et al.
	A50	8065714	11-22-2011	Budko, et al.
	A51	8171483	05-01-2012	Nord, et al.

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

In place of PTO-1449 Form		U. S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number		13/708,477	
		Filing Date		December 7, 2012	
		First Inventor Name		Havemose	
		Art Unit		2199	
		Examiner Name		Lewis Alexander Bullock, Jr.	
SHEET	2	OF	3	Attorney Docket Number 48731.775	

U. S. PATENT APPLICATION PUBLICATIONS				
Examiner's Initials	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	B1	2002/0007468	01-17-2002	Kampe, et al.
	B2	2002/0087916	07-04-2002	Meth
	B3	2002/0124089	09-05-2002	Aiken, et al.
	B4	2002/0169884	11-14-2002	Jean, et al.
	B5	2002/0174265	11-21-2002	Schmidt
	B6	2003/0018927	01-23-2003	Gadir, et al.
	B7	2003/0028635	02-06-2003	DeMent, et al.
	B8	2003/0069993	04-10-2003	Na, et al.
	B9	2003/0140041	07-24-2003	Rosensteel, et al.
	B10	2003/0140272	07-24-2003	Lawrance, et al.
	B11	2004/0044721	03-04-2004	Song, et al.
	B12	2004/0153700	08-05-2004	Nixon, et al.
	B13	2004/0210895	10-21-2004	Esfahany
	B14	2004/0268175	12-30-2004	Koch, et al.
	B15	2005/0050304	03-03-2005	Mukherjee, et al.
	B16	2005/0071824	03-31-2005	K.N., et al.
	B17	2005/0213498	09-29-2005	Appanna, et al.
	B18	2005/0251785	11-10-2005	Vertes, et al.
	B19	2005/0262097	11-24-2005	Sim-Tang, et al.
	B20	2005/0262411	11-24-2005	Vertes, et al.
	B21	2005/0268273	12-01-2005	Fresko, et al.
	B22	2005/0278688	12-15-2005	Buskens, et al.
	B23	2006/0015764	01-19-2006	Ocko, et al.
	B24	2006/0075381	04-06-2006	Laborczfalvi, et al.
	B25	2006-0080411	04-13-2006	Buskins, et al.
	B26	2006/0085679	04-20-2006	Neary, et al.
	B27	2006/0090097	04-27-2006	Ngan, et al.
	B28	2006/0143512	06-29-2006	Jia, et al.
	B29	2006/0206873	09-14-2006	Argade
	B30	2006/0262716	11-23-2006	Ramaiah, et al.
	B31	2006/0262734	11-23-2006	Appanna, et al.
	B32	2007/0007336	01-11-2007	Kindberg
	B33	2007/0107052	05-10-2007	Cangini, et al.
	B34	2007/0156659	07-05-2007	Lim
	B35	2007/0192518	08-16-2007	Rupanagunta, et al.
	B36	2007/0260733	11-08-2007	Havemose, et al.
	B37	2007/0277056	11-29-2007	Varadarajan, et al.
	B38	2007/0294578	12-20-2007	Qiao, et al.
	B39	2008/0104441	05-01-2008	Rao, et al.
	B40	2008/0295114	11-27-2008	Argade, et al.
	B41	2008/0301760	12-04-2008	Lim
	B42	2009/0271787	10-29-2009	Clark
	B43	2010/0023996	01-28-2010	Sabin, et al.
	B44	2012/0054486	03-01-2012	Lakkavalli, et al.

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

In place of PTO-1449 Form	U. S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	<i>Complete if Known</i>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number	13/708,477
		Filing Date	December 7, 2012
		First Inventor Name	Havemose
		Art Unit	2199
		Examiner Name	Lewis Alexander Bullock, Jr.
		Attorney Docket Number	48731.775
SHEET	3	OF	3

FOREIGN PATENT DOCUMENTS					
Examiner's Initials	Cite No.	Foreign Patent Document <small>(Country Code - Number - Kind)</small>	Publication Date <small>MM-DD-YYYY</small>	Patentee or Applicant of Cited Document	Translation <small>Y/N</small>

NON-PATENT LITERATURE DOCUMENTS		
Examiner's Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item, date, page(s), volume-issue number(s), publisher, city/country where published
	C1	KARABLIEH, Feras, et al., "Heterogeneous Checkpointing for Multithreaded Applications," IEEE 21 st Symposium on Reliable Distributed Systems, October 13-16, 2002, pages 140-149.
	C2	NAM, Hyochang, et al., "Probabilistic Checkpointing," IEICE Trans. Inf. & Syst., Vol. E85-D, No. 7, July 2002, pages 1093-1104.
	C3	SANCHO, Jose Carlos, et al., "On the Feasibility of Incremental Checkpointing for Scientific Computing," Proceedings of the 18 th International Parallel and Distributed Processing Symposium, April 2004, 10 pages.

Examiner Signature	Date Considered
-----------------------	--------------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Electronic Acknowledgement Receipt

EFS ID:	15509672
Application Number:	13708477
International Application Number:	
Confirmation Number:	6261
Title of Invention:	SYSTEM AND METHOD FOR APPLICATION ISOLATION
First Named Inventor/Applicant Name:	Allan Havemose
Customer Number:	84646
Filer:	J. Andrew Lowes/Karen Underwood
Filer Authorized By:	J. Andrew Lowes
Attorney Docket Number:	48731.775
Receipt Date:	12-APR-2013
Filing Date:	07-DEC-2012
Time Stamp:	18:47:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		48731775IDS.pdf	252785 eb330588a954f4b85beb8793e6a8f6b973d47d22	yes	4

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Transmittal Letter			1	1	
Information Disclosure Statement (IDS) Form (SB08)			2	4	
Warnings:					
Information:					
2	Non Patent Literature	Karablieh.pdf	801312	no	10
			b064644545b4b6db79478616b71aa5cd9f06c1c		
Warnings:					
Information:					
3	Non Patent Literature	Nam.pdf	891440	no	12
			526c849d72182a0d9695990b18467c2b2f19fb00		
Warnings:					
Information:					
4	Non Patent Literature	Sancho.pdf	834028	no	10
			72274956e57feac56acd2d29eb5bafd8e82d83b9		
Warnings:					
Information:					
Total Files Size (in bytes):			2779565		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	§	Group Art Unit: 2199
Allan Havemose	§	
	§	Confirmation No.: 6261
Application No. 13/708,477	§	
	§	Examiner: Lewis Alexander Bullock, Jr.
Filing Date: December 7, 2012	§	
	§	Docket No.: 48731.775
Entitled: System and Method for Application	§	
Isolation	§	
	§	

INFORMATION DISCLOSURE STATEMENT

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In compliance with the duty of disclosure under 37 CFR §1.56, and in accordance with the practice under 37 CFR §1.97 and §1.98, the Examiner's attention is directed to the documents listed on the enclosed modified Form PTO-1449. No inference should be made that the cited references are in fact material, are in fact prior art, or that no better art exists. The cited patents are listed in numerical order and are not in any order based on their pertinence.

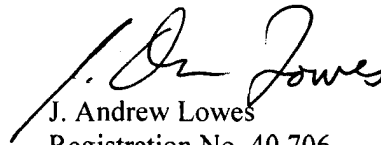
Pursuant to 37 CFR §1.98(a)(2)(i), copies of the U.S. patent documents listed on the enclosed modified Form PTO-1449 are not attached.

This Information Disclosure Statement is being filed within three months of the United States filing date or before the mailing date of a first Office Action on the merits. No certification or fee is required (37 CFR §1.97(b)).

No fee is due. However, the Commissioner is hereby authorized to charge any additional fees which may be required or credit any overpayment to Deposit Account No. 08-1394.

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed modified Form PTO-1449 be returned indicating that such information has been considered.

Respectfully submitted,

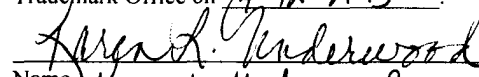

J. Andrew Lowes
Registration No. 40,706

Date: 4/11/2013

HAYNES AND BOONE, LLP
2323 Victory Avenue, Suite 700
Dallas, Texas 75219
Telephone: 972-680-7557
Facsimile: 214-200-0853

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence and any attachments are being transmitted via the Electronic Filing System (EFS) Web with the United States Patent and Trademark Office on 4-12-2013.


Name Karen L. Underwood



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/708,477	12/07/2012	Allan Havemose	48731.775	6261
84646	7590	06/11/2014		
Haynes and Boone, LLP IP Docketing 2323 Victory Avenue Suite 700 Dallas, TX 75219			EXAMINER WU, QING YUAN	
			ART UNIT 2199	PAPER NUMBER
			NOTIFICATION DATE 06/11/2014	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

michele.zarinelli@gmail.com
patentpatent@gmail.com
ipdocketing@haynesboone.com

Office Action SummaryApplication No.
13/708,477Applicant(s)
HAVEMOSE ET AL.Examiner
QING WUArt Unit
2199AIA (First Inventor to File)
Status
No**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/12/13.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-20 is/are pending in the application.
 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-20 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 12/7/12 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
 Paper No(s)/Mail Date 4/12/13.
- 3) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. ____.
- 4) ☐ Other: ____.

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The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

1. Claims 1-20 are presented for examination.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

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Art Unit: 2199

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The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit <http://www.uspto.gov/forms/>. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to <http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp>.

Claims 1-20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1 and 3-12 of U.S. Patent No. 8,341,631 (hereafter '631). Although the claims at issue are not identical, they are not patentably distinct from each other because claims 1-20 are anticipated by claims 1 and 3-12 patent '631 such that claims 1 and 3-12 of patent '631 contain all the limitations of claims 1- 20 of the instant application. Claims 1-20 of the instant application therefore are not patently distinct from claims 1 and 3-12 of patent '631 and as such are unpatentable for obviousness-type double patenting.

Claim Rejections - 35 USC § 112

3. The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject

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matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention. More specifically, it is unclear to the examiner who or what "they" on line 8 is referring to. Is applicant referring to one or more of the isolated environments and one or more of the applications? or more than one application? For examination purpose "they" is treated as "the one or more applications" although it implies a plurality of (more than one) applications are running.

Allowable Subject Matter

5. Claims 1-20 would be allowable by overcoming the double patenting and/or 112 second paragraph rejection above.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QING WU whose telephone number is (571)272-3776. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis A. Bullock can be reached on 571-272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR


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Art Unit: 2199


system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/QING-YUAN WU/
Primary Examiner, Art Unit 2199

<p><i>Index of Claims</i></p> 	<p>Application/Control No.</p> <p>13708477</p>	<p>Applicant(s)/Patent Under Reexamination</p> <p>HAVEMOSE ET AL.</p>
	<p>Examiner</p> <p>QING WU</p>	<p>Art Unit</p> <p>2199</p>

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	06/04/2014							
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	2	✓							
	3	✓							
	4	✓							
	5	✓							
	6	✓							
	7	✓							
	8	✓							
	9	✓							
	10	✓							
	11	✓							
	12	✓							
	13	✓							
	14	✓							
	15	✓							
	16	✓							
	17	✓							
	18	✓							
	19	✓							
	20	✓							

Search Notes 	Application/Control No. 13708477	Applicant(s)/Patent Under Reexamination HAVEMOSE ET AL.
	Examiner QING WU	Art Unit 2199

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
714/all, 718/all, 719/all, 726/all, G06F9/445.cpc. G06F9/50.cpc. H04L63/00.cpc. G06F21/\$4.cpc. [combination of class/subclass search in EAST - see search history]	6/4/2014	QW
Inventor name search	6/4/2014	QW

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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In place of PTO-1449 Form		U. S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	13/708,477
				Filing Date	December 7, 2012
				First Inventor Name	Havemose
				Art Unit	2199
				Examiner Name	Lewis Alexander Bullock, Jr.
SHEET	1	OF	3	Attorney Docket Number	48731.775

U. S. PATENTS				
Examiner's Initials	Cite No.	Document Number	Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	A1	5774660	06-30-1998	Brendel, et al.
	A2	5951650	09-14-1999	Bell, et al.
	A3	5996016	11-30-1999	Thalheimer, et al.
	A4	6021408	02-01-2000	Ledain, et al.
	A5	6026499	02-15-2000	Shirakihara, et al.
	A6	6085086	07-04-2000	La Porta, et al.
	A7	6105148	08-15-2000	Chung, et al.
	A8	6144999	11-07-2000	Khalidi, et al.
	A9	6154877	11-28-2000	Ramkumar, et al.
	A10	6161219	12-12-2000	Ramkumar, et al.
	A11	6189111	02-13-2001	Alexander, et al.
	A12	6269442	07-31-2001	Oberhauser, et al.
	A13	6314567	11-06-2001	Oberhauser, et al.
	A14	6321275	11-20-2001	McQuistan, et al.
	A15	6484276	11-19-2002	Singh, et al.
	A16	6496847	12-17-2002	Bugnion, et al.
	A17	6496979	12-17-2002	Chen, et al.
	A18	6560626	05-06-2003	Hogle, et al.
	A19	6574618	06-03-2003	Eylon, et al.
	A20	6601081	07-29-2003	Provino, et al.
	A21	6718538	04-06-2004	Mathiske
	A22	6766314	07-20-2004	Burnett
	A23	6823474	11-23-2004	Kampe, et al.
	A24	7028305	04-11-2006	Schaefer
	A25	7058696	06-06-2006	Phillips, et al.
	A26	7076555	07-11-2006	Orman, et al.
	A27	7089294	08-08-2006	Baskey, et al.
	A28	7093086	08-15-2006	Van Rietschote
	A29	7096388	08-22-2006	Singh, et al.
	A30	7127713	10-24-2006	Davis, et al.
	A31	7197700	03-27-2007	Honda, et al.
	A32	7207039	04-17-2007	Komaria, et al.
	A33	7213246	05-01-2007	Van Rietschote, et al.
	A34	7246256	07-17-2007	De La Cruz, et al.
	A35	7257811	08-14-2007	Hunt, et al.
	A36	7269645	09-11-2007	Goh, et al.
	A37	7363365	04-22-2008	Ocko, et al.
	A38	7370071	05-06-2008	Greschler, et al.
	A39	7447896	11-04-2008	Smith, et al.
	A40	7467370	12-16-2008	Proudlar, et al.
	A41	7512815	03-31-2009	Munetoh
	A42	7519963	04-14-2009	Blaser, et al.
	A43	7523344	04-21-2009	Qiao, et al.
	A44	7543182	06-02-2009	Branda, et al.
	A45	7613921	11-03-2009	Scaralata
	A46	7673308	03-02-2010	McMillan, et al.
	A47	7694123	04-06-2010	Prasse, et al.
	A48	7725763	05-25-2010	Vertes, et al.
	A49	7761573	07-20-2010	Travostino, et al.
	A50	8065714	11-22-2011	Budko, et al.
	A51	8171483	05-01-2012	Nord, et al.

Examiner Signature	/Qing Yuan Wu/	Date Considered	06/04/2014
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.W.

In place of PTO-1449 Form		U. S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number		13/708,477	
		Filing Date		December 7, 2012	
		First Inventor Name		Havemose	
		Art Unit		2199	
		Examiner Name		Lewis Alexander Bullock, Jr.	
SHEET	2	OF	3	Attorney Docket Number	48731.775

U. S. PATENT APPLICATION PUBLICATIONS				
Examiner's Initials	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	B1	2002/0007468	01-17-2002	Kampe, et al.
	B2	2002/0087916	07-04-2002	Meth
	B3	2002/0124089	09-05-2002	Aiken, et al.
	B4	2002/0169884	11-14-2002	Jean, et al.
	B5	2002/0174265	11-21-2002	Schmidt
	B6	2003/0018927	01-23-2003	Gadir, et al.
	B7	2003/0028635	02-06-2003	DeMent, et al.
	B8	2003/0069993	04-10-2003	Na, et al.
	B9	2003/0140041	07-24-2003	Rosensteel, et al.
	B10	2003/0140272	07-24-2003	Lawrance, et al.
	B11	2004/0044721	03-04-2004	Song, et al.
	B12	2004/0153700	08-05-2004	Nixon, et al.
	B13	2004/0210895	10-21-2004	Esfahany
	B14	2004/0268175	12-30-2004	Koch, et al.
	B15	2005/0050304	03-03-2005	Mukherjee, et al.
	B16	2005/0071824	03-31-2005	K.N., et al.
	B17	2005/0213498	09-29-2005	Appanna, et al.
	B18	2005/0251785	11-10-2005	Vertes, et al.
	B19	2005/0262097	11-24-2005	Sim-Tang, et al.
	B20	2005/0262411	11-24-2005	Vertes, et al.
	B21	2005/0268273	12-01-2005	Fresko, et al.
	B22	2005/0278688	12-15-2005	Buskens, et al.
	B23	2006/0015764	01-19-2006	Ocko, et al.
	B24	2006/0075381	04-06-2006	Laborczfalvi, et al.
	B25	2006-0080411	04-13-2006	Buskins, et al.
	B26	2006/0085679	04-20-2006	Neary, et al.
	B27	2006/0090097	04-27-2006	Ngan, et al.
	B28	2006/0143512	06-29-2006	Jia, et al.
	B29	2006/0206873	09-14-2006	Argade
	B30	2006/0262716	11-23-2006	Ramaiah, et al.
	B31	2006/0262734	11-23-2006	Appanna, et al.
	B32	2007/0007336	01-11-2007	Kindberg
	B33	2007/0107052	05-10-2007	Cangini, et al.
	B34	2007/0156659	07-05-2007	Lim
	B35	2007/0192518	08-16-2007	Rupanagunta, et al.
	B36	2007/0260733	11-08-2007	Havemose, et al.
	B37	2007/0277056	11-29-2007	Varadarajan, et al.
	B38	2007/0294578	12-20-2007	Qiao, et al.
	B39	2008/0104441	05-01-2008	Rao, et al.
	B40	2008/0295114	11-27-2008	Argade, et al.
	B41	2008/0301760	12-04-2008	Lim
	B42	2009/0271787	10-29-2009	Clark
	B43	2010/0023996	01-28-2010	Sabin, et al.
	B44	2012/0054486	03-01-2012	Lakkavalli, et al.

Examiner Signature	/Qing Yuan Wu/	Date Considered	06/04/2014
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

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FOREIGN PATENT DOCUMENTS					
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NON-PATENT LITERATURE DOCUMENTS		
Examiner's Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item, date, page(s), volume-issue number(s), publisher, city/country where published
	C1	KARABLIEH, Feras, et al., "Heterogeneous Checkpointing for Multithreaded Applications," IEEE 21 st Symposium on Reliable Distributed Systems, October 13-16, 2002, pages 140-149.
	C2	NAM, Hyochang, et al., "Probabilistic Checkpointing," IEICE Trans. Inf. & Syst., Vol. E85-D, No. 7, July 2002, pages 1093-1104.
	C3	SANCHO, Jose Carlos, et al., "On the Feasibility of Incremental Checkpointing for Scientific Computing," Proceedings of the 18 th International Parallel and Distributed Processing Symposium, April 2004, 10 pages.

Examiner Signature	/Qing Yuan Wu/	Date Considered	06/04/2014
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.W.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"20100262970"	US-PGPUB; USPAT	OR	OFF	2012/03/08 14:42
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		(resource interface memor\$3 file font librar\$3 device storage))	EPO; JPO; DERWENT; IBM_TDB			
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L15	17	l4 and l5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2014/06/04 14:56
L14	175209	G06F9/445.cpc. G06F9/50.cpc. H04L63/00.cpc. G06F21/\$4.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2014/06/04 14:56

6/ 4/ 2014 3:08:51 PM

C:\Users\qwu\Documents\EAST\Workspaces\13708477.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	HAVEMOSE, Allan	Docket:	Avail0109-C1
Serial No.:	13/708,477	Art Unit:	2199
Filed:	12/07/2012	Examiner:	WU, Qing Yuan
Title:	SYSTEM AND METHOD FOR APPLICATION ISOLATION		

AMENDMENT

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

In response to the Non-Final Rejection (“Office Action”) dated 06/11/2014,
please submit the following amendments and arguments:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 5 of this paper.

Amendments to the Claims:

1. (Currently Amended) A system, comprising:
one or more central processing units; and
one or more isolated environments including one or more applications and executables;
wherein the one or more central processing units and the one or more isolated environments are configured to interact with each other;
wherein the one or more isolated environments are created during installation of the one or more applications, and updates to the one or more isolated environments occur as the one or more applications use additional resources ~~while they run~~;
wherein the one or more isolated environments are removed as part of an uninstall of the one or more applications;
wherein the one or more isolated environments are stored for retrieval at a later time after the uninstall of the one or more applications.
2. (Currently Amended) The system according to claim 1, wherein the one or more applications are isolated from other applications and a host operating system while ~~the one or more applications~~ ~~running~~ within the one or more isolated environments.
3. (Original) The system according to claim 1 comprising one or more interception layers configured to intercept access to host operating system resources and host operating system interfaces.
4. (Original) The system according to claim 3, wherein the one or more interception layers intercept calls to the host operating system and system libraries created by the one or more applications.
5. (Original) The system according to claim 1 comprising an interception database configured to maintain mapping between host operating system resources inside the one or more isolated environments and outside.
6. (Original) The system according to claim 5, wherein the interception database translates parameters and contexts between a host environment and the one or more isolated environments.

7. (Original) The system according to claim 1, wherein the one or more isolated environments are stored on a local storage.
8. (Original) The system according to claim 1, wherein the one or more isolated environments are stored on a networked storage and the one or more applications are delivered over a network.
9. (Original) The system according to claim 1, wherein each of the one or more applications is installed into its own isolated environment.
10. (Original) The system according to claim 1, wherein two or more applications are installed into a shared isolated environment.
11. (Original) The system according to claim 10, wherein the two or more applications share resources inside the shared isolated environment.
12. (Original) The system according to claim 1, wherein two or more applications are installed into separate isolated environments and the one or more applications run concurrently in the separate isolated environments.
13. (Original) The system according to claim 1, wherein a first application of the one or more applications is installed twice into separate isolated environments, and the separate isolated environments run concurrently and independently.
14. (Original) A method, comprising:
 - creating one or more isolated environments during installation of the one or more applications, and updating the one or more isolated environments as the one or more applications use additional resources while running;
 - removing the one or more isolated environments as part of uninstalling the one or more applications; and
 - storing the one or more isolated environments for retrieval at a later time after the one or more applications are uninstalled.

15. (Original) The method of claim 14 comprising intercepting access to system resources and interfaces at one or more interception layers.
16. (Original) The method of claim 15 comprising maintaining mapping between the system resources inside the one or more isolated environments and outside.
17. (Original) The method of claim 14 comprising isolating the one or more applications from other applications and a host operating system while running within the one or more isolated environments.
18. (Original) A non-transitory computer readable storage medium comprising instructions for:
 - creating one or more isolated environments during installation of the one or more applications, and updating the one or more isolated environments as the one or more applications use additional resources while running;
 - removing the one or more isolated environments as part of uninstalling the one or more applications; and
 - storing the one or more isolated environments for retrieval at a later time after the one or more applications are uninstalled.
19. (Original) The non-transitory computer readable storage medium of claim 18 comprising instructions for maintaining mapping between the system resources inside the one or more isolated environments and outside.
20. (Original) The non-transitory computer readable storage medium of claim 19 comprising instructions for isolating the one or more applications from other applications and a host operating system while running within the one or more isolated environments.

REMARKS

Claims 1-20 are presented for examination.

Double Patenting

Claims 1-20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1 and 3-12 of U.S. Patent No. 8,341,631 (hereafter '631).

Applicant has filed an electronic terminal disclaimer.

Claim Rejections - 35 USC § 112

Claim 1 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Allowable Subject Matter

Claims 1-20 would be allowable by overcoming the double patenting and/or 112 second paragraph rejection above.

Applicant has amended the claims to overcome the 112 rejection. An electronic terminal disclaimer has been filed.

CONCLUSION

Although Applicant has focused the remarks and/or amendments on or primarily on the independent claims in order to expedite the prosecution of the instant application, Applicant reserves the right to remark on and/or amend any of the dependent claims at any time. The mere fact that Applicant has not remarked on and/or amended any of the dependent claims at this time, either related to an Official Notice rejection or not, is unequivocally not an admission of prior art.

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application.

Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution.

Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned at any time.

	Respectfully submitted,
	RGIP LLC 1103 Twin Creeks Drive Allen, TX 75013 Phone: (972) 849-1310
Dated: September 10, 2014	<u>/Raffi Gostanian/</u>
	Raffi Gostanian Reg. No. 42,595 Docket No. Avail0109-C1

Electronic Acknowledgement Receipt

EFS ID:	20104617
Application Number:	13708477
International Application Number:	
Confirmation Number:	6261
Title of Invention:	SYSTEM AND METHOD FOR APPLICATION ISOLATION
First Named Inventor/Applicant Name:	Allan Havemose
Customer Number:	84646
Filer:	Raffi Gostanian
Filer Authorized By:	
Attorney Docket Number:	Avail0109-C1 / 48731.775
Receipt Date:	10-SEP-2014
Filing Date:	07-DEC-2012
Time Stamp:	18:37:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	sb0021_Transmittal.pdf	263228 b1683e22f37a7ef874ce961fe4b690c8c9f231fa	no	2

Warnings:**Information:**

2	7000 Response.pdf	107422 12f1acdf94d37c806aeea90051bfc403758fd42d	yes	6		
Multipart Description/PDF files in .zip description						
Document Description		Start	End			
Amendment/Req. Reconsideration-After Non-Final Reject		1	1			
Claims		2	4			
Applicant Arguments/Remarks Made in an Amendment		5	6			
Warnings:						
Information:						
Total Files Size (in bytes):			370650			
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	13/708,477	
	Filing Date	December 7, 2012	
	First Named Inventor	HAVEMOSE, Allan	
	Art Unit	2199	
	Examiner Name	WU, Qing Yuan	
Total Number of Pages in This Submission	8	Attorney Docket Number	Avail0109-C1

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment/Reply <input checked="" type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Declaration
<div>Remarks</div>		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	RGIP LLC		
Signature	/Raffi Gostanian/		
Printed name	Raffi Gostanian		
Date	September 10, 2014	Reg. No.	42,595

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature	/Michele Zarinelli/		
Typed or printed name	Michele Zarinelli	Date	September 10, 2014

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc Code: DIST.E.FILE

Document Description: Electronic Terminal Disclaimer - Filed

U.S. Patent and Trademark Office
Department of Commerce

Electronic Petition Request	TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT
Application Number	13708477
Filing Date	07-Dec-2012
First Named Inventor	Allan Havemose
Attorney Docket Number	Avail0109-C1 / 48731.775
Title of Invention	SYSTEM AND METHOD FOR APPLICATION ISOLATION

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
OPEN INVENTION NETWORK LLC	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

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as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

☐ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicant claims the following fee status:

- ☐ Small Entity
- ☐ Micro Entity
- ☒ Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

- ☒ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application
- Registration Number 42595
- ☐ A sole inventor
- ☐ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application
- ☐ A joint inventor; all of whom are signing this request

Signature	/Raffi Gostanian/
Name	Raffi Gostanian

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal				
Application Number:		13708477		
Filing Date:		07-Dec-2012		
Title of Invention:		SYSTEM AND METHOD FOR APPLICATION ISOLATION		
First Named Inventor/Applicant Name:		Allan Havemose		
Filer:		Raffi Gostanian		
Attorney Docket Number:		Avail0109-C1 / 48731.775		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Statutory or Terminal Disclaimer	1814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

7006

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				160

Doc Code: DISQ.E.FILE

Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 13708477

Filing Date: 07-Dec-2012

Applicant/Patent under Reexamination: Havemose et al.

Electronic Terminal Disclaimer filed on September 10, 2014

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	20104378
Application Number:	13708477
International Application Number:	
Confirmation Number:	6261
Title of Invention:	SYSTEM AND METHOD FOR APPLICATION ISOLATION
First Named Inventor/Applicant Name:	Allan Havemose
Customer Number:	84646
Filer:	Raffi Gostanian
Filer Authorized By:	
Attorney Docket Number:	Avail0109-C1 / 48731.775
Receipt Date:	10-SEP-2014
Filing Date:	07-DEC-2012
Time Stamp:	18:20:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 160
RAM confirmation Number	4744
Deposit Account	505904
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Electronic Terminal Disclaimer-Filed	#: 7009 eTerminal-Disclaimer.pdf	33573 53964906ca900e7287aebeedc562975b40e34a22	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30135 462258ec16209c02ca85d9a0f90cc40eb255c20a	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			63708		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/708,477		Filing Date 12/07/2012		<input type="checkbox"/> To be Mailed			
ENTITY: <input checked="" type="checkbox"/> LARGE <input type="checkbox"/> SMALL <input type="checkbox"/> MICRO												
APPLICATION AS FILED – PART I												
(Column 1)			(Column 2)									
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)				
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A						
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A						
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A						
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		X \$ =						
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =						
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).										
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))												
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL						
APPLICATION AS AMENDED – PART II												
(Column 1)			(Column 2)			(Column 3)						
AMENDMENT	09/10/2014		CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		* 20		Minus	** 20	= 0		X \$80 =		0	
	Independent (37 CFR 1.16(h))		* 3		Minus	*** 3	= 0		X \$420 =		0	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))											
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
									TOTAL ADD'L FEE		0	
(Column 1)			(Column 2)			(Column 3)						
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))		*		Minus	**	=		X \$ =			
	Independent (37 CFR 1.16(h))		*		Minus	***	=		X \$ =			
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))											
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
									TOTAL ADD'L FEE			
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>												

LIE
/LAWANDA MILTON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

84646 7590 09/23/2014
 Haynes and Boone, LLP
 IP Docketing
 2323 Victory Avenue
 Suite 700
 Dallas, TX 75219

EXAMINER

WU, QING YUAN

ART UNIT

PAPER NUMBER

2199

DATE MAILED: 09/23/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/708,477

12/07/2012

Allan Havemose

Avail0109-C1 / 48731.775

6261

TITLE OF INVENTION: SYSTEM AND METHOD FOR APPLICATION ISOLATION

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	12/23/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

7012

Complete and send this form, together with applicable fee(s), to: **Mail**

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

84646 7590 09/23/2014
Haynes and Boone, LLP
IP Docketing
2323 Victory Avenue
Suite 700
Dallas, TX 75219

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/708,477	12/07/2012	Allan Havemose	Avail0109-C1 / 48731.775	6261

TITLE OF INVENTION: SYSTEM AND METHOD FOR APPLICATION ISOLATION

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	12/23/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
WU, QING YUAN	2199	718-100000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/708,477	12/07/2012	Allan Havemose	Avail0109-C1 / 48731.775	6261

84646 7590 09/23/2014

Haynes and Boone, LLP
 IP Docketing
 2323 Victory Avenue
 Suite 700
 Dallas, TX 75219

EXAMINER

WU, QING YUAN

ART UNIT

PAPER NUMBER

2199

DATE MAILED: 09/23/2014

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/708,477	Applicant(s) HAVEMOSE ET AL.	
	Examiner QING WU	Art Unit 2199	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 9/10/14.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-20. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

<ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ 	<ol style="list-style-type: none"> 5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 7. <input type="checkbox"/> Other _____
---	---

/QING WU/ Primary Examiner, Art Unit 2199	
--	--

Application/Control Number: 13/708,477
Art Unit: 2199

Page 2

The present application is being examined under the pre-AIA first to invent provisions.

Examiner's Comment

1. The terminal disclaimer filed on 9/10/14 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent No. 8,341,631 has been reviewed and is accepted, therefore obviated the outstanding nonstatutory obviousness-type double patenting rejection. The terminal disclaimer has been recorded.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QING WU whose telephone number is (571)272-3776. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis A. Bullock can be reached on 571-272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 13/708,477
Art Unit: 2199

Page 3

/QING WU/
Primary Examiner, Art Unit 2199

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"12421694"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/12 15:00
L2	8	"8341631"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/12 15:01
L6	74165	"726"/\$.cls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2014/09/12 15:06
L7	101	(application software process program) near3 (hook\$3 isolat\$3 intercept\$3 redirect\$3 map\$4) near3 (shar\$3 near2 (resource interface memor\$3 file font librar\$3 device storage)) and (install\$5 uninstall\$5)	USPAT	OR	ON	2014/09/12 15:06
L8	18	L6 and L7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2014/09/12 15:06
L12	183130	"714"/\$.cls. "719"/\$.cls. "718"/\$.cls.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/12 15:18
L13	602	(application software process program) near3 (hook\$3 isolat\$3 intercept\$3 redirect\$3 map\$4) near3 (shar\$3 near2 (resource interface memor\$3 file font librar\$3 device storage))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/12 15:18
L14	195	L13 and L12	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/12 15:18
L15	158	L14 and ((@ad<"20090410") or (@prad<"20090410") or (@rlad<"20090410"))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/09/12 15:18
L23	352026	G06F9/445.qpc. G06F9/50.qpc.	US-PGPUB;	OR	OFF	2014/09/12

		H04L63/00.cpc. G06F21/54.cpc. G06F11/54.cpc.	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:43
L24	34	I23 and L7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2014/09/12 15:44

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	5863	718/1,104.ccls. 714/1.ccls.	USPAT; UPAD	OR	OFF	2014/09/12 15:04
L4	101	(application software process program) near3 (hook\$3 isolat\$3 intercept\$3 redirect\$3 map\$4) near3 (shar\$3 near2 (resource interface memor\$3 file font librar\$3 device storage)) and (install\$5 uninstall\$5)	USPAT; UPAD	OR	ON	2014/09/12 15:04
L5	19	I3 and I4	USPAT; UPAD	OR	ON	2014/09/12 15:04
L19	2267	G06F9/46.cpc. G06F9/445.cpc. G06F9/50.cpc. G06F11/008.cpc.	USPAT; UPAD	OR	OFF	2014/09/12 15:36
L20	6	I19 and I4	USPAT; UPAD	OR	ON	2014/09/12 15:36

9/ 12/ 2014 3:44:16 PM

C:\Users\qwu\Documents\EAST\Workspaces\13708477.wsp

7020




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UNITED STATES DEPARTMENT OF COMMERCE
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 Alexandria, Virginia 22313-1450
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BIB DATA SHEET

CONFIRMATION NO. 6261

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
13/708,477	12/07/2012	718	2199	Avail0109-C1 / 48731.775		
RULE						
APPLICANTS Open Invention Network LLC, Durham, NC INVENTORS Allan Havemose, Arroyo Grande, CA; ** CONTINUING DATA ***** This application is a CON of 12/421,691 04/10/2009 PAT 8341631 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 01/07/2013						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and /QING WU/ Acknowledged Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 10	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS Haynes and Boone, LLP IP Docketing 2323 Victory Avenue Suite 700 Dallas, TX 75219 UNITED STATES						
TITLE SYSTEM AND METHOD FOR APPLICATION ISOLATION						
FILING FEE RECEIVED 1390	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

Search Notes 	Application/Control No. 13708477	Applicant(s)/Patent Under Reexamination HAVEMOSE ET AL.
	Examiner QING WU	Art Unit 2199

CPC- SEARCHED

Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED

Symbol	Date	Examiner

US CLASSIFICATION SEARCHED

Class	Subclass	Date	Examiner


SEARCH NOTES

Search Notes	Date	Examiner
714/all, 718/all, 719/all, 726/all, G06F9/445.cpc. G06F9/50.cpc. H04L63/00.cpc. G06F21/\$4.cpc. G06F11/\$4.cpc. [combination of class/subclass search in EAST - see search history]	9/12/2014	QW
Updated inventor name search	9/12/2014	QW

INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
718	1, 104	9/12/2014	QW
714	1	9/12/2014	QW
G06F	9/445, 9/46, 9/50, 11/008	9/12/2014	QW


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Issue Classification 	Application/Control No. 13708477	Applicant(s)/Patent Under Reexamination HAVEMOSE ET AL.
	Examiner QING WU	Art Unit 2199

CPC						
Symbol					Type	Version
G06F		9		46	F	2013-01-01
G06F		9		50	I	2013-01-01
G06F		9		455	I	2013-01-01
G06F		11		008	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE		Total Claims Allowed:	
		20	
(Assistant Examiner)	(Date)	O.G. Print Claim(s)	O.G. Print Figure
/QING WU/ Primary Examiner.Art Unit 2199	09/12/2014	14	2
(Primary Examiner)	(Date)		

Issue Classification 	Application/Control No. 13708477	Applicant(s)/Patent Under Reexamination HAVEMOSE ET AL.
	Examiner QING WU	Art Unit 2199

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION									
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED				
718		1				G	0	6	F	9 / 455 (2006.0)					
CROSS REFERENCE(S)						G	0	6	F	9 / 50 (2006.0)					
						G	0	6	F	9 / 46 (2006.0)					
						G	0	6	F	11 / 00 (2006.01.01)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)														
718	104														
714	1														

NONE		Total Claims Allowed:	
		20	
(Assistant Examiner)	(Date)		
/QING WU/ Primary Examiner.Art Unit 2199	09/12/2014	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	14	2

2199[illegible]2



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/708,477	12/07/2012	2199	1390	Avail0109-C1 / 48731.775	20	3

CONFIRMATION NO. 6261

CORRECTED FILING RECEIPT



OC000000071692659

84646

Haynes and Boone, LLP (48731)

IP Docketing

2323 Victory Avenue

Suite 700

Dallas, TX 75219

Date Mailed: 11/05/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Allan Havemose, Arroyo Grande, CA;

Applicant(s)

Allan Havemose, Arroyo Grande, CA;

Assignment For Published Patent Application

OPEN INVENTION NETWORK LLC, Durham, NC

Power of Attorney: The patent practitioners associated with Customer Number 84646**Domestic Priority data as claimed by applicant**

This application is a CON of 12/421,691 04/10/2009 PAT 8341631

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 01/07/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/708,477**

Projected Publication Date: Request for Non-Publication Acknowledged**Non-Publication Request:** Yes**Early Publication Request:** No

Title

SYSTEM AND METHOD FOR APPLICATION ISOLATION

Preliminary Class

718

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:**PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

7028

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

84646 7590 09/23/2014
 Haynes and Boone, LLP
 IP Docketing
 2323 Victory Avenue
 Suite 700
 Dallas, TX 75219

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

Theresa O'Connor	(Depositor's name)
<i>Theresa O'Connor</i>	(Signature)
December 15, 2014	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/708,477	12/07/2012	Allan Havemose	Avail0109-C1 / 48731.775	6261

TITLE OF INVENTION: SYSTEM AND METHOD FOR APPLICATION ISOLATION

APPL. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	12/23/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
WU, QING YUAN	2199	718-100000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Haynes and Boone, LLP

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Open Invention Network, LLC

Durham, North Carolina

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☒ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 081394 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
☐ Applicant asserting small entity status. See 37 CFR 1.27
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Brian Graham/

Date December 15, 2014

Typed or printed name Brian Graham

Registration No. 67,387

Electronic Patent Application Fee Transmittal				
Application Number:		13708477		
Filing Date:		07-Dec-2012		
Title of Invention:		SYSTEM AND METHOD FOR APPLICATION ISOLATION		
First Named Inventor/Applicant Name:		Allan Havemose		
Filer:		Brian Douglas Graham/Theresa O'Connor		
Attorney Docket Number:		Avail0109-C1 / 48731.775		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				960

Electronic Acknowledgement Receipt

EFS ID:	20956443
Application Number:	13708477
International Application Number:	
Confirmation Number:	6261
Title of Invention:	SYSTEM AND METHOD FOR APPLICATION ISOLATION
First Named Inventor/Applicant Name:	Allan Havemose
Customer Number:	84646
Filer:	Brian Douglas Graham/Theresa O'Connor
Filer Authorized By:	Brian Douglas Graham
Attorney Docket Number:	Avail0109-C1 / 48731.775
Receipt Date:	15-DEC-2014
Filing Date:	07-DEC-2012
Time Stamp:	10:03:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$960
RAM confirmation Number	8371
Deposit Account	081394
Authorized User	GRAHAM, BRIAN

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.18 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Issue_Fee_Transmittal.pdf	83727	no	1
			1ed33ea6cb0e17671a4d37039af501d987697fb3		

Warnings:**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30819	no	2
			c84d46545652868a3f971370b39fe5a36fb28bf3		

Warnings:**Information:**

Total Files Size (in bytes):			114546
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/708,477	01/27/2015	8943500	Avail0109-C1 / 48731.775	6261

84646 7590 01/07/2015

Haynes and Boone, LLP (48731)
 IP Docketing
 2323 Victory Avenue
 Suite 700
 Dallas, TX 75219

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 124 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Allan Havemose, Arroyo Grande, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

IN THE UNITED STATES PATENT AND TRADEMARK
OFFICE

**REVOCATION AND POWER OF
ATTORNEY AND
CHANGE OF CORRESPONDENCE ADDRESS**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

In accordance with 37 C.F.R. Section 1.36, M.P.E.P. Section 402.05 and 402.07, please revoke any existing Powers of Attorney for the below listed applications, and appoint the attorneys and/or patent agents associated with the following customer number to prosecute these applications and to transact all business in the Patent and Trademark Office in connection therewith:

Customer Number: 26502

7035

<u>Appl. Serial No.</u>	<u>Filing Date</u>	<u>Attorney Docket Number</u>	<u>Confirmation Number</u>
15/341637	2016-11-02	P202253592US03	2036
15/175666	2016-06-07	P202253616US03	4150
13/906699	2013-05-31	P202253624US02	4665
14/480943	2014-09-09	P202253624US03	5718
15/443763	2017-02-27	P202253624US05	5997
15/943955	2018-04-03	P202253624US06	3624
13/951759	2013-07-26	P202253652US03	2372
14/310573	2014-06-20	P202253652US04	5574
15/208082	2016-07-12	P202253652US05	7509
16/043628	2018-07-24	P202253652US06	6158
16/861139	2020-04-28	P202253652US07	4883
14/089234	2013-11-25	P202253667US02	2390
14/739611	2015-06-15	P202253667US03	4639
14/951032	2015-11-24	P202253667US04	9815
16/260120	2019-01-29	P202253667US05	8495
14/951153	2015-11-24	P202253667US06	6904
16/043480	2018-07-24	P202253667US07	7342
16/253186	2019-01-21	P202253667US09	2377
14/557744	2014-12-02	P202253625US02	9529
15/832403	2017-12-05	P202253684US04	3940
14/471105	2014-08-28	P202253707US02	9169
14/719909	2015-05-22	P202253707US03	7955
16/533777	2019-06-06	P202253707US04	1377
15/935330	2018-03-26	P202253708US02	2758
16/420101	2019-05-22	P202253709US02	1761
16/727865	2019-12-26	P202253711US02	6285
13/708477	2012-12-07	P202253728US02	6261
14/606175	2015-01-27	P202253728US03	9834
15/149518	2016-05-09	P202253728US04	3459

7036

15/641300	2017-07-04	P202253728US05	8186
16/278659	2019-02-18	P202253728US06	8296
14/542611	2014-11-16	P202253728US09	2137
15/013680	2016-02-02	P202253728US11	7184
13/849940	2013-03-25	P202253728US13	2153
15/799859	2017-10-31	P202253728US15	9424
14/044152	2013-10-02	P202253728US18	5511
15/175797	2016-06-07	P202253728US19	6492
15/823938	2017-11-28	P202253728US20	8345
16/418947	2019-05-21	P202253728US21	6695
14/159884	2014-01-21	P202253728US24	7501
14/458917	2014-08-13	P202253728US25	6869
14/720804	2015-05-24	P202253728US26	1020
15/424795	2017-02-04	P202253728US27	4416
15/653194	2017-07-18	P202253728US28	8505
14/450879	2014-08-04	P202253728US32	7725
14/720807	2015-05-24	P202253728US33	9103
15/437326	2017-02-20	P202253728US34	5478
16/378375	2019-04-08	P202253728US35	4619
13/862979	2013-04-15	P202253728US40	3593
14/606093	2015-01-27	P202253728US41	3568
15/201956	2016-07-05	P202253728US42	1146
16/006103	2018-06-12	P202253728US43	9095
16/709856	2019-12-10	P202253728US44	9533
15/494721	2017-04-24	P202253756US03	5275
16/459659	2019-07-02	P202253756US04	4277
17/139982	2020-12-31	P202253756US05	8147
16/239491	2019-01-03	P202253757US05	1088
16/239513	2019-01-03	P202253757US08	5732
17/009679	2020-09-01	P202253757US09	3316


7037

17/033724	2020-09-26	P202253757US10	5282
17/033819	2020-09-27	P202253757US11	3487
17/033729	2020-09-26	P202253757US12	8499
16/239502	2019-01-03	P202253757US14	5580
14/341987	2014-07-28	P202253779US02	9850
14/698430	2015-04-28	P202253779US03	1461
15/627918	2017-06-20	P202253779US05	4342
13/942271	2013-07-15	P202253942US04	1648
14/812592	2015-07-29	P202253942US05	3481
15/824198	2017-11-28	P202253942US06	9426

Please direct all correspondence in the above cases to:

International Business Machines Corporation
Customer No. 26502

Date: 10/27/2022

By: 
Name: Timothy M Farrell
Title: Counsel
Reg. No. 37,321

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

26502

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

International Business Machines Corporation

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional) 3/10/15

Name

Timothy M. Farrell, Reg. No. 37,321

Title

Counsel

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☒ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)Applicant/Patent Owner: International Business Machines CorporationApplication No./Patent No.: 13/708,477 / 8,943,500 Filed/Issue Date: 12/07/2012 / 01/27/2015Titled: SYSTEM AND METHOD FOR APPLICATION ISOLATIONInternational Business Machines Corporation, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Allan Havemose To: Open Invention Network LLCThe document was recorded in the United States Patent and Trademark Office at
Reel 022531, Frame 0595, or for which a copy thereof is attached.2. From: Open Invention Network LLC To: International Business Machines CorporationThe document was recorded in the United States Patent and Trademark Office at
Reel 061365, Frame 0571, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.☐ Additional documents in the chain of title are listed on a supplemental sheet(s).☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature

Timothy M. Farrell

Printed or Typed Name

01/07/2023

Date

37321

Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
13/708,477

RECEIPT DATE / TIME
01/11/2023 07:44:36 PM ET

ATTORNEY DOCKET #
Avail0109-C1 / 48731.775

Title of Invention

SYSTEM AND METHOD FOR APPLICATION ISOLATION

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # 8943500

CONFIRMATION # 6261

FILED BY Barbara Rasa

PATENT CENTER # 61424073

FILING DATE 12/07/2012

CUSTOMER # 84646

FIRST NAMED
INVENTOR Allan Havemose

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY Timothy Farrell

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
P202253728US02__Signed Statement.pdf	3	Assignee showing of ownership per 37 CFR 3.73	926 KB
Combined Bulk Transmittal and POA.pdf	5	Power of Attorney	398 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
P202253728US02__Signed Statement.pdf	B5B6843A9AC07F03D0779F4DD7D8094C0CE60054D0834B49C D68B2820855E282FA13171757A1BAECDD92AF3655CD33103D

72D76DC21769B8BA04957CE963A8EC

Combined Bulk Transmittal and
POA.pdf

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6F679F67B64137AA14EFF4AD1F25B

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/708,477	12/07/2012	Allan Havemose	Avail0109-C1 / 48731.775

CONFIRMATION NO. 6261**POA ACCEPTANCE LETTER**

26502

INTERNATIONAL BUSINESS MACHINES CORPORATION

IPLAW IQ0, B/256-3

1701 NORTH STREET

ENDICOTT, NY 13760



OC000000137210892

Date Mailed: 01/17/2023

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/11/2023.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/tmwilliams/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/708,477	12/07/2012	Allan Havemose	Avail0109-C1 / 48731.775

CONFIRMATION NO. 6261**POWER OF ATTORNEY NOTICE**

OC000000137210891

84646
OPEN INVENTION NETWORK LLC
900 West Bethany Drive
Suite 380
Allen, TX 75013

Date Mailed: 01/17/2023

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/11/2023.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/tmwilliams/